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THE UNIVERSITY OF ALBERTA

SEX-ROLE ORIENTATION AND ADJUSTMENT TO HYSTERECTOMY

BY

DOROTHY ANN CONSTABLE

A THESIS

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to my family with love

ABSTRACT

This study investigated factors which distinguish women who experience negative psychological effects following hysterectomy from women who do not. In particular, the study tested the hypothesis that women with more traditional attitudes regarding the role of women and/or women with more typically "feminine" personality characteristics will experience more difficulties with post-hysterectomy adjustment.

In general, respondents indicated good psychological adjustment following hysterectomy. Overall scores on the scale were high; 73 percent of respondents indicated that they felt the hysterectomy had improved their general health and well-being, and 94 percent indicated that they felt they had coped well with the hysterectomy. Repondents were also asked to indicate whether the hysterectomy had caused any positive and/or any negative changes in their life. Seventy-eight percent of respondents indicated that it had caused positive changes compared with 29 percent indicating negative changes. Positive changes included improved health and well-being, freedom from the pain and problems associated with troublesome periods, improved sexual relations, and feelings of being more carefree. Among the negative changes reported were inability to bear children, depression, mood swings, sexual problems, adverse problems from partners, and lowered self-esteem.

That hypothesis that sex -role orientation is related to adjustment to having a hysterectomy was not supported by the results of this study, nor was the supplementary hypothesis that women who have difficulties will be distinguished from women who do not in terms of coping strategies they report using. Factors which were found to distinguish "good adjusters" from "poor adjusters" were number of children, reason for the hysterectomy, and expressed desire for additional information on the physical effects of hysterectomy, the psychological effects of hysterectomy, and strategies for coping. "Poor adjusters" were significantly more likely than "good adjusters" to have fewer than two children; "poor adjusters" were significantly more likely to report a disease process, particularly cancer, as a reason for the

hysterectomy; and, "poor adjusters" were significantly more likely to express a desire for additional information.

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CHAPTER I

Introduction

More women in Canada undergo hysterectomy than any other surgical procedure (Statistics Canada, 1984). Because a hysterectomy results in the inability of a woman to bear children from that point in time, and because that ability has traditionally been assumed to be part of what it means to be a woman, it has often been assumed that loss of that ability will have an adverse effect on a woman's psychological well-being.

A belief in the importance of the uterus to a woman's psychological well-being had its adherents as long ago as Hippocrates and Galen. In the late eighteenth century, Krafft-Ebing (1890; cited in Meikle, Brody, & Pysh, 1977) emphasized the special significance of the uterus to a woman's evaluation of herself. He believed that the capacity to reproduce is psychologically important to women and that the removal of the potentiality is likely to result in emotional damage.

Drellich and Beiber (1958), in an early study, found that the most often expressed concern of hysterectomy patients they interviewed was the loss of child-bearing capacity. Regret regarding loss of child-bearing ability was expressed for a variety of different reasons including loss of a source of pleasure and fulfillment, inability to bear a child to please some significant man, and loss of a part of themselves they considered essential as a woman. Even the women in the study who indicated that they welcomed the hysterectomy for contraceptive reasons expressed regret over the loss of the uterus because of other feminine functions associated with it.

Menzer et al. (1957) found that attitude toward femininity was one of the most important factors in determining emotional adjustment after hysterectomy. Those who did well "either denied themselves feminine gratification, turning instead to masculine occupations or pursuits, or resolved satisfactorily the loss of reproductive functioning" (Polivy, p. 420).

Barglow, Gunther, Johnson, and Melzer (1965) found that emotional adjustment following surgical sterilization procedures was better where the procedure was a tubal ligation rather than a hysterectomy, where pre-operative anxiety was lower, and where there was an absence of marked conflicts about child-bearing. Pre-operative anxiety was considered, in part, related to concerns about loss of femininity. Interestingly, interviews conducted one year after the operation indicated that successful emotional adjustment appeared to be related, in a majority of cases, to presence of a fantasy of becoming pregnant again. The authors hypothesized a greater difficulty in denying the loss of child-bearing ability in the case of hysterectomy because of the removal of a body organ and the loss of menses and suggested that tubal ligation may allow initial denial of loss followed by a slower, more successful working through of that loss. Kaltreider, Wallace, and Horowitz (1979) also found, in their study, that women with previous tubal ligations experienced the hysterectomy as a more final loss.

Steiner and Aleksandrowicz (1970) suggested that in the case of a "mutilating operation", the response of the patient "will be conditioned by conscious and unconscious symbolic meanings given to that organ and to its functions" (p. 186). They suggested that loss of the uterus may mean "symbolic castration" or loss of femininity which may have a deleterious effect on self-esteem. They also suggested that reaction to a loss of part of the body in many ways resembles the reaction to loss of a person and that a period of mourning involving "mental pain" and depressed mood follows the loss of part of the the body. Carlson (1978) has also noted that loss of body parts or functions can be psychologically disturbing because "the body with its parts and functions is inextricably tied to objects in the environment, social interaction, and one's psychological self" (p. 79).

Early investigators in the field assumed that the nature of the relationship between the uterus and a woman's psychological self is a clearly explicable one. The fact, however, that

reactions to hysterectomy differ markedly suggests that the relationship is a much more subjective one involving how a woman sees her role in the world.

Kaltreider, Wallace, and Horowitz (1979) investigated differences between women exhibiting no stress response syndrome, mild stress response syndrome, and severe stress response syndrome after hysterectomy. They found that women exhibiting a severe stress response syndrome were more likely to have experienced themselves post-operatively as "changed women" and were more likely to have a persisting wish for future children. The women experiencing a severe stress response syndrome believed that bearing children was a central life function that they were no longer able to fulfill. Kaltreider et al. see the identity of those women as linked to continued bearing of children and note the absence of alternative acceptable life paths. In contrast, women with no stress response syndrome usually experienced the hysterectomy as providing considerable symptom relief or freedom from unwanted pregnancies. No desire for future children was expressed; family support was present; and activity, achievement, and independence were valued.

Based on the results of a comparative study of post-surgical convalescence among urban women belonging to Anglo and Mexican-American ethnic groups, Williams (1973, 1976) suggested that "cultural patterning of feminine role" is an important variable in how women view the experience of hysterectomy. Williams found that women of Mexican descent expressed more concerns about the operation and about their husband's reactions to the hysterectomy, a finding she related to the concept of feminine role in traditional Mexican culture which stresses "wholeness as a woman" and the ability to bear and rear children.

Palmer (1984) investigated the effect of continuing desire for biological children on post-hysterectomy depression and post-hysterectomy self-esteem. Although no relationship between desire for children and post-hysterectomy depression was found, Palmer did find a significant relationship between feminine sex-role orientation and lower post-hysterectomy self-

esteem as well as a tendency for "feminine" subjects to experience more post-hysterectomy depression.

In a related area, Adler and Boxley (1985), studying psychological reactions to infertility, found that high masculinity and high androgyny were both associated with better coping as indicated by self-esteem. No significant relationship was found, however, between high masculinity or high androgyny and other indices of coping used in the study, namely, body image, marital adjustment, psychiatric symptoms, and self-defeating behaviors.

Nature of the Problem

Although sex-role orientation appears to be related to feelings of self-esteem in situations where a woman is faced with inability to bear either any or any more children, the extent to which that affects overall adjustment is not clear. Nor is it clear whether sex-role orientation or attitudes, or both, have on effect on adjustment. Decreases in self-esteem following hysterectomy suggest that problems are related to what patients believe it means to be a women, that is, their sex-role attitudes.

Reilly (1982) found that sex-role orientation was related to coping style suggesting the possibility that sex-role orientation may have an indirect rather than a direct effect on post-hysterectomy adjustment. Such possibilities must also be investigated in order to explain the dynamics of any relationship between sex-role orientation, sex-role attitudes, and post-hysterectomy adjustment that is found.

Purpose of the Study

The hypotheses to be investigated in this study is that problems in post-hysterectomy adjustment, as measured by a scale developed to tap commonly reported symptoms of post-hysterectomy distress, are related to the way in which a woman defines what it means to be a

woman (that is, her sex role attitudes) and whether or not she defines herself as traditionally "feminine" in her sex-role orientation and ascribes to traditionally "feminine" personal characteristics. Specifically, it is hypothesized that:

1. Women indicating good adjustment to hysterectomy will be distinguished from women indicating poorer adjustment in terms of a number of demographic variables and/or variables related to the nature of the problem resulting in hysterectomy.

2. Women who ascribe to traditional attitudes regarding the role of women will experience more adjustment problems following hysterectomy than do women with less traditional views.

3. Women who are feminine in their sex-role orientation, that is, women who describe themselves as having typically feminine characteristics, will experience more adjustment problems to hysterectomy than women with masculine or androgynous sex-role orientation.

4. Women indicating good adjustment to hysterectomy will be distinguished from women indicating poorer adjustment in terms of coping strategies employed; coping strategies employed will be related to sex-role orientation.

Definitions

Feminine sex-role orientation will be defined as women who are classified as feminine on the basis of their responses to the Bem Sex Role Inventory (Bem, 1981a); that is, women whose femininity score is ≥ 5.70 and whose masculinity score is < 4.80. Subjects will be classified as feminine, masculine, androgynous, or undifferentiated using a median split technique.

Traditional women will be defined as low scorers on the Attitudes Toward Women Scale (Spence & Helmreich, 1978). Women with nontraditional attitudes will be defined as high scorers on the Attitudes Toward Women Scale.

Women indicating good post-hysterectomy adjustment will be defined as high scorers on the hysterectomy adjustment scale.

Implications of the Study

Some women experience significant difficulties in coping with having a hysterectomy while others experience few, if any, problems. In exploring possible factors which distinguish those women, the study has theoretical significance. On a practical level, such knowledge can be used to help identify high-risk individuals, to plan programs designed as preventative measures, and to assist in counseling women experiencing psychological distress related to having a hysterectomy.

Limitations of the Study

The hysterectomy adjustment scale has not been validated. Although items were developed based on the literature regarding psychological sequelae of hysterectomy, further work remains to be done to ensure that the scale is, in fact, measuring psychological adjustment to hysterectomy.

The lack of a surgical control group means that some problems in adjustment may be related to complications arising from major surgery rather than complications arising from a hysterectomy per se. The retrospective nature of the study requires that some caution be exercised in the identification of the hysterectomy as a causal agent for post-hysterectomy psychological problems since no information is available regarding the pre-hysterectomy state of the subject. Questions on the hysterectomy adjustment scale ask specifically, however, for a

comparison of the pre-hysterectomy and post-hysterectomy state and should, therefore, be less prone to biased results than measures of psychological adjustment that do not make such comparisons.

Subjects in the study were volunteers and may not, therefore, be representative of all women who have had a hysterectomy. Subjects were solicited from patients of gynecologists in Edmonton and area to obtain as wide a cross-section as possible.

Overview of the Study

Chapter II contains a review of the literature with respect to psychological sequelae of hysterectomy as well as the sex-role literature. This is followed by a discussion of the methodology employed in the study. Results and discussion are presented in Chapter IV. Chapter V contains conclusions arising from the study and suggestions for further research.

CHAPTER II

Review of the Literature

The literature was reviewed in two major areas. The first part of this chapter reviews the literature with respect to the psychological effects of hysterectomy and follows, basically, an historical format. The second part of the chapter reviews the literature with respect to sex role. This section of the chapter examines the relationships between sex-role orientation, behavioral flexibility, and adjustment as well as the relationship between personality attributes, attitudes, and behaviors.

Psychological Effects of Hysterectomy

In general, early researchers of the psychological effects of hysterectomy expected, and found, adverse psychological sequelae following hysterectomy. One of the earliest studies of the psychological effects of hysterectomy was by Lindemann (1941) who compared the incidence of psychiatric disturbance among women who had undergone pelvic as opposed to abdominal surgery. Interviews were conducted 12 to 18 months after surgery, and, on the basis of those interviews, Lindemann concluded that pelvic surgery was more frequently followed by a syndrome which included agitation, insomnia, and depression.

Hollender (1960) reported that nearly twice as many women admitted to a psychiatric hospital had undergone pelvic surgery as had undergone surgery of other forms and concluded that "the loss of the ability to bear children may produce profound psychological reactions" (p. 500).

Ackner (1961) found that 30 percent of a group of hysterectomy patients under 40 years of age experienced negative consequences following surgery. Negative consequences were identified as deterioration of mood, loss of memory, presence of additional physical and

psychiatric complaints, sexual maladjustment, and feelings of regret over loss of child-bearing capacity.

Melody (1962), in reviewing the post-operative course of 267 women who underwent hysterectomy, found a severe depressive reaction in four percent of those women within three months of the surgery. Melody noted that the depressive reactions that followed hysterectomy were, in each instance, precipitated by "a traumatic social event [generally involving husband or lover] that the patient perceived as a real, threatened, or symbolic act of disapproval or rejection" (p. 410), and he interpreted the depression as an adaptive response to that event. Melody also noted that all the women experiencing post-hysterectomy depression had had one or more depressive episodes in the five years prior to the surgery.

In what was one of the earliest reports of negative results, Patterson and Craig (1963) found that the incidence of previous hysterectomy in patients admitted to an acute psychiatric facility was only slightly higher than in the general population. On the basis of those results, they concluded that hysterectomy was of little significance in the development of mental illness.

Ellison (1964), in a study conducted in Australia, found that ten percent of 765 new female psychiatric admissions had had previous gynecological surgery. In comparing the women whose mental illness appeared related to the hysterectomy with the women whose mental illness and hysterectomy appeared unrelated, Ellison suggested that loss over child-bearing capacity and perception that child-bearing capacity was essential to completeness as a woman were factors distinguishing the groups. Ellison also found that younger average age at the time of the operation and fewer children appeared to be distinguishing factors. Depression was most commonly the reason for admission.

Bragg (1965) compared the rates of admission to a psychiatric hospital of 1601 hysterectomy patients and 1162 cholecystectomy patients and found no statistical difference in admission rates, although hysterectomy patients aged 30 to 39 were more vulnerable in that

regard. Comparing the observed admissions in each group with the number expected had the general population rates been applicable, Bragg found that, while the observed admission rate for hysterectomy patients was approximately 30 percent higher than the expected rate, the difference was not statistically significant.

Munday and Cox (1967), based on a questionnaire study of 400 hysterectomy patients, found that one third of the respondents reported emotional disturbance following hysterectomy. The authors also found that 40 percent of the respondents indicated a change in sexual relations, 33 percent for the better, and 67 percent for the worse.

Barker (1968) found that psychiatric referral in a group of 729 women who had undergone hysterectomy was 2.5 times more common than in a control group of 280 women who had undergone cholecystectomy, and three times more common than in a matched group of women in the general population. Factors which were found to be significantly linked with an increased chance of psychiatric referral after hysterectomy were absence of pelvic disease, psychiatric referral before operation, and a history of marital disruption. Barker concluded that depression, the most commonly observed psychiatric sequela, should be considered a major post-operative complication of hysterectomy.

Steiner and Aleksandrowicz (1970) examined 133 patients who had undergone gynecological surgery in order to study the "emotional response" to such procedures and compared those patients with a control group of cholecystectomy patients. The highest rate of psychiatric complications was found in hysterectomy patients (48.8%), the lowest in the control group (16.2%). Psychiatric complications were diagnosed on the basis of an interview and included physical complaints (hysterical or hypochondriacal) indicative of emotional disturbance, symptoms of anxiety or depression, including insomnia, and disturbances in sexual life such as loss of libido. Menopause and parity were found to influence the reaction to hysterectomy, women before menopause and those with fewer than two children responding in a more severe

manner. Steiner and Aleksandrowicz concluded that loss of the uterus results in a grief reaction marked by "mental pain" and depressed mood.

Zervos and Papaloucas (1972), in a study of 87 premenopausal hysterectomy patients, found that 33 percent developed psychosomatic disorders following surgery. Psychosomatic disorders were classified as (a) "neurovegetative disturbances or organic neuroses" such as sexual impairment, diminution of drive, and "emotionally-induced neuroses" such as bronchial asthma and gastrointestinal syndromes, (b) psychoneurotic reactions involving no particular organ and manifesting as irritability, restlessness, insomnia or fatigue, and depression, and (c) marked psychosomatic disturbances such as psychogenic anorexia or obesity. Although Zervos and Papaloucas indicated that post-operative psychosomatic reactions usually assumed the simplest form of neurovegetative disorders, no information was provided on the incidence of particular symptoms.

Chynoweth (1973) found that 26 of 100 hysterectomy patients expressed complaints following hysterectomy regarding the operation, physical health, mental health, sexual relations, and husband's attitude regarding the sexual relations. Factors which were significantly related to the expression of complaints were small number of siblings, high ordinal position in family of origin, poor relationship with mother, concern over the effects of the operation on future sexual relations, and difficulty in understanding and accepting the need for the operation. There was also a tendency for low educational attainment, lack of support from partner, history of previous surgical operations, and bilateral oophorectomy in addition to abdominal hysterectomy to be related to subsequent complaints.

Richards (1973) compared 200 hysterectomy patients with 200 nonhysterectomy patients and found that the hysterectomy patients were four times more likely to become depressed, as measured by treatment with specific antidepressive drugs, within three years of the operation, than those in the control group. Richards identified women below the age of 40, those for whom there was pre-operative depression, and those with no gynecological

pathology as most at risk. Richards also noted that pre-operative incidence of depression in the hysterectomy group was greater than in the control group. That study was followed by a second study (Richards, 1974) in which 56 hysterectomy patients were compared with 56 women who had undergone various other operations. Seventy percent of the hysterectomy patients reported depression in the three year period following the operation compared with 30 percent of the women in the control group. Richards also reported a higher incidence of hot flushes, urinary symptoms, extreme tiredness, headaches, dizziness, and insomnia in the hysterectomy patients which Richards attributed, at least in part, to endocrine imbalance. Those symptoms, in conjunction with the depression noted, Richards termed "a post-hysterectomy syndrome."

Hamptom and Tarnasky (1974), in comparing the psychological "afteradjustment" of women electing contraception by hysterectomy or tubal ligation, found no significant differences between the groups on indices of depression, self-esteem, physical complaints, sexual adjustment, or post-operative psychiatric contact. The results contrast with those of a similar study by Barglow et al. (op. cit.). Hamptom and Tarnasky suggest that random assignment in the Barglow study rather than assignment by elective choice may account for that difference.

Moore and Tolley (1976) used Zung's Self-Rating Depression Scale to assess depression in 47 hysterectomy patients one day pre-operatively and 12 weeks post-operatively and found no significant difference in the rates of depression. In both cases, approximately one-third of the women reported depressive symptomatology. Moore and Tolley found a tendency for women less than 35 to more likely be depressed post-operatively (44% versus 18%) and for women with less than 12 years of education to more likely be depressed (45% versus 22%), but in neither case was the difference statistically significant.

Dennerstein, Wood, and Burrows (1977), in a study focusing on sexual response following hysterectomy, interviewed 89 women who had undergone hysterectomy and oophorectomy six months to five years previously to gather information regarding social,

medical, gynecological and psychological history, and changes in sexual relations which the women attributed to the surgery. Thirty-seven percent of the women indicated a deterioration in sexual relations, 34 percent indicated an improvement, and 29 percent indicated no change. The presence of pre-operative anxiety concerning possible deterioration of sexual performance after the operation was significantly related to subsequent loss of desire for sexual intercourse and increased dyspareunia. Dennerstein, Wood, and Burrows hypothesized that negative sexual expectation might be related to feelings that femininity had been altered by the operation, lack of knowledge of sexual anatomy and physiology, negative comments from friends and relatives, and changes in the response of the women's sexual partner.

Meikle (1977), in a review of research on the psychological effects of hysterectomy, argued that a variety of procedural and design shortcomings make uncertain the importance of psychological factors. Those shortcomings are identified as an undue emphasis on retrospective designs, inadequate controls, contamination of assessment procedures, and failure to quantify and adequately analyze results. Meikle suggested that researchers consider the reason for surgery, type of hysterectomy technique and whether other procedures were carried out at the same time, prior psychiatric history, patient's or relatives' expectations regarding outcome, parity, age, socio-economic status, religious affiliation, and postsurgery support as factors. He also recommended the use of a suitable control group (cholecystectomy patients being one of the more appropriate groups) to enable the researcher to control for the nonspecific effects of surgery. The question of a suitable follow-up period was identified, and the greater use of semistructured interviews and psychological tests recommended.

Meikle, Brody, and Pysh (1977), in a study using those design principles, compared 55 hysterectomy, 60 tubal ligation, and 38 cholecystectomy patients. No evidence was found to suggest that hysterectomy results in a greater degree of mood disturbance, using the Profile of Mood States (POMS) as a measure, than the cholecystectomy control procedure. Nor was any evidence found to suggest that sterilization by organ removal was psychologically more

traumatic than sterilization by tubal ligation. Follow-up was conducted six weeks and three months post-operatively.

Cosper, Fuller, and Robinson (1978) interviewed 40 women approximately six weeks following hysterectomy regarding physical changes noted during the first week at home and at the time of the interview; emotional changes experienced since surgery; changes in feelings of femininity, sexual desire and satisfaction, and attitudes of and toward sexual partner; and fears or beliefs held before and after surgery about the effects of hysterectomy on physical, emotional, and sexual functioning. A majority of the respondents (67.5%) reported no change in emotional activity; 25% reported more crying episodes than usual after surgery; 7.5% reported crying less. Eleven subjects (27.5%) reported increased nervousness at the time of interview; eight reported decreased nervousness. A majority of subjects (62.0%) reported no change in attitude toward their sexual partner and, of those reporting change, a majority reported positive change. Reported changes in feelings of femininity , sexual desire, and sexual desirability also tended to be positive. Overall, 75 percent of the women interviewed expressed relief that the surgery was performed.

Kaltreider, Wallace, and Horowitz (1979) postulated a stress response syndrome to hysterectomy similar in nature to that identified in individuals following the experience of other serious life events. Kaltreider et al. suggested that individuals work through a traumatic event first by blocking out much of its meaning and then gradually admitting to consciousness, and briefly considering, some of the painful aspects until the change in life status is accepted. Short follow-up periods may, then, result in the nonidentification of psychological impact. When individuals do not complete the working through process, a prolonged or intense symptomatic period, defined as a stress response syndrome, may result. Individuals in Kaltreider et al.'s study were 28 women younger than 40 years of age who had undergone a nonelective hysterectomy for nonmalignant conditions approximately one year previously. Semistructured interviews were conducted and subjects were rated for the presence of a stress response syndrome. A rating of "none" was given to subjects who experienced normal anxiety leading to

an adaptive response to the hysterectomy (39%), a rating of "mild" to subjects indicating some persistent, unpleasant experience of intrusive images, feelings, or the need to avoid actively the implications of the surgery (43%), and a rating of "severe" to subjects who experienced intrusive and avoidant symptoms at a level that disrupted their usual functioning for prolonged periods (18%). The range of symptoms reported included anxiety, phobias, obsessive thoughts, and depression. Factors related to a poor outcome were identified as experiencing oneself post-operatively as a "changed woman," the presence of a persisting wish for future children, "increasingly maladaptive levels of general life functions," and poor adaptation to previous losses.

Martin, Roberts, and Clayton (1980), in response to concerns that the three-month follow-up period in studies by Moore and Tolley and by Meikle et al. was insufficient, conducted a study of 49 women receiving a hysterectomy for reasons other than cancer. The women were assessed pre-operatively, using a structured psychiatric interview and the Zung Self-Rating Depression Scale (SDS), and, again, one year post-operatively. Using Feighner's criteria, 53 percent had a history of psychiatric illness, with particularly high rates of hysteria (somatization disorder) and depressive illness. Forty-four of the subjects were contacted on follow-up and were reinterviewed. At follow-up, 66 percent of the women received a psychiatric diagnosis, the most prevalent being hysteria (30%) and primary affective disorder (20%). All but three (9%) had an index psychiatric diagnosis. A nonsignificant decrease in the Zung SDS score was shown from index to follow-up. Martin et al. also assessed other symptoms identified by Richards (op.cit.) as part of a post-hysterectomy syndrome and found 25 percent of the women interviewed to qualify for such a syndrome. All eleven women qualifying were diagnosed as psychiatrically ill pre-operatively ten of whom as hysterical. No significant changes were reported in sexual indifference, "frigidity," or dyspareunia.

Gath, Cooper, and Day (1982), in another prospective study involving 156 women with menorrhagia of benign origin, found a significant decrease in psychiatric morbidity using the Present State Examination (PSE) both six and 18 months after surgery. Comparing the number

of pre-hysterectomy patients exhibiting psychiatric morbidity, Gath et al. found the proportion to be significantly higher than in the general population. Ninety individuals (58%) of the sample were diagnosed as psychiatric cases pre-operatively. At 18 months after surgery, 34 of those individuals were diagnosed as cases (predominantly neurotic depression and anxiety states), 51 as noncases, and five were not contacted. Of the 66 individuals diagnosed as noncases pre-operatively, nine were diagnosed as cases 18 months after, 54 were diagnosed as noncases, and three were not contacted. Gath et al. also reported significant improvement in Profile of Mood States (POMS) scores, increased sexual frequency, increased enjoyment of sexual intercourse, and improved feelings of well-being. In terms of demographic and physical factors related to psychiatric status 18 months post-operatively, Gath et al. found no significant relationship between age, marital status, parity, social class, organic versus dysfunctional uterine bleeding, or concomitant bilateral oophorectomy. Subjects exhibiting psychiatric morbidity 18 months post-operatively were significantly more likely to have experienced marked premenstrual tension pre-operatively, to have had hospital contact for nongynecological physical complaints in the 18 months following surgery, and to have had four or more physician contacts for gynecological and other reasons in that period. There was also a strong relationship between psychiatric outcome after hysterectomy and psychiatric status before the operation as measured by the PSE and the POMS, with the neuroticism scale of the Eysenck Personality Inventory, and with a history of previous psychiatric referral.

Webb and Wilson-Barnett (1983a, 1983b) found a statistically significant decrease in depression as measured by the Beck Depression Inventory between the fifth or sixth post-operative day and four months post-operatively. Self-concept, as measured by a modified form of the Rosenberg Self-Concept Scale, improved, and subjects did not report feelings of devaluation or defeminization. On the whole, subjects reported that they were glad to have had the operation and did not regret loss of menstrual and reproductive functions. Contrary to Gath et al.'s finding, Webb and Wilson-Barnett found no relationship between the Eysenck Personality Inventory neuroticism score and outcome. Although communication between spouses regarding the operation and its effect on sexual relations appeared to be limited, those

who felt positively supported by their partners had better outcomes in terms of physical health, resumption of sexual activity, resumption of other activities, and satisfaction with recovery. Webb (1983) suggested that response to hysterectomy depends on the extent to which "self-concept as a feminine person, an attractive sexual being for whom child-bearing has been a major and highly valued social role" (p. 207) is threatened. She argued that social support, that is, support from partner, family and friends, and information, are important resources that affect the reappraisal phase of the the coping process and subsequent outcome. Webb also suggested that, as attitudes toward gender roles change under the influence of feminism, attitude toward hysterectomy will also change and its emotional consequences will become less traumatic.

Palmer (1984), in a study of 69 post-hysterectomy patients who were less than 35 years of age at the time of the surgery, examined the relationship between post-hysterectomy depression measured by the Zung Self-Rating Depression Scale (SDS), perceived adequacy of pre-operative education, continuing strong desire for biological children, and sex-role socialization as assessed by the Bem Sex Role Inventory. Palmer found no relationship between post-hysterectomy depression and perceived adequacy of pre-operative education or continuing strong desire for biological children. Significantly more women exhibiting post-hysterectomy depression were classified as feminine than as androgynous, and Palmer suggests that women who are "feminine" in their sex-role orientation may lack acceptable alternatives "when stripped of their child-bearing ability." However, those results must be interpreted cautiously as little difference was found between feminine and masculine groups. Thirty-five percent of Palmer's subjects exhibited post-hysterectomy depression.

Tsoi, Ho, and Poon (1984) also investigated the relationship between sex-role orientation, as measured by the Chinese Sex Role Inventory which is similar in form to the Bem Sex Role Inventory, in a study of 20 Chinese hysterectomy patients. No relationship was found between sex-role orientation and post-hysterectomy adjustment as assessed by a complaints measure and the General Health Questionnaire. High scores on the hypochondriasis scale of

the MMPI, administered pre-operatively, were found to correlate positively with the outcome measures.

Lalinec-Michaud and Engelsmann (1984, 1985), in a prospective study designed to determine the incidence of clinical depression in women following hysterectomy and to identify risk factors for depression, found a higher than average incidence of psychiatric morbidity in women seeking hysterectomy and a significant improvement in symptoms following hysterectomy. Women with high pre-operative anxiety were more vulnerable to depression both before and after the operation. More women who had emergency surgery (less than one month's notice) developed depression than women who had elective surgery. Comparison of depressed and nondepressed women in the study showed a significant difference between the groups regarding pre-occupations related to post-operative sexual life. Lalinec-Michaud and Engelsmann also speculated that women who have diversified interests besides those defined by traditional gender role will feel less threatened by the removal of female organs, and will, therefore, experience less anxiety and, consequently, less depression.

In summary, early studies generally reported adverse psychological effects following hysterectomy, depression being the most commonly reported, although there were scattered reports of no significant effects even among the early studies. Adverse psychological sequelae were generally seen to be related to the loss of child-bearing capacity which was seen to have a negative impact a women's view of herself as a "complete woman." Women reported as most vulnerable were those lacking partner support, those expressing concern about the effect on future sexual relations, younger women, women with fewer children or women desiring more children, those with no gynecological pathology, and those with a history of previous psychiatric problems.

In the late 1970's, following the expression of concern about the methodological adequacy of many previous studies, there was a shift in methodological design and prospective studies became popular. With changes in research methodology, the number of studies

reporting negative findings increased considerably, and it became apparent that many women experiencing psychological difficulties post-operatively had pre-operative difficulties as well. Several studies also reported overall improvement in psychological well-being following hysterectomy.

However, it is clearly the case that a large number of women continue to experience psychological distress following hysterectomy, and continuing attention has been given to those factors which distinguish women who experience psychological distress from those who do not. Within that context, recent attention has been given to the possibility that sex-role orientation may be a distinguishing factor.

Questions arising from the literature, then, are:

1. Given the reports both of adverse consequences and positive benefits to hysterectomy, what changes, both positive and negative, do women themselves see as resulting from hysterectomy?

2. What demographic/background factors can be expected to distinguish women who experience post-hysterectomy adjustment difficulties from women who do not? Age at the time of hysterectomy, parity, and previous psychiatric history have been implicated in the literature.

3. What situational factors can be expected to distinguish women who experience post-hysterectomy adjustment difficulties from women who do not? Support of spouse is one such factor that has been implicated.

4. Are there factors with respect to how a woman views herself as a woman that influence adjustment to hysterectomy?

Sex Role

Prior to the early 1970's, the prevailing assumption was that masculinity and femininity are opposite poles of a single dimension and that psychological well-being is dependent on congruence between sex-role orientation and gender (Whitley; 1983, 1984). Constantinople (1973) was among the earliest writers to question the assumption of bipolarity. She argued that existing tests of masculinity-femininity were inadequate for several reasons: (a) evidence for separate masculinity and femininity dimensions which calls into question the assumption of bipolarity, (b) evidence that masculinity-femininity are multidimensional rather than unidimensional concepts, and (c) the questionable use of sex differences in item response as the sole criterion of masculinity or femininity.

Since the time of Constantinople's review, a number of sex-role inventories have been developed which treat masculinity and femininity as separate dimensions: (a) the Bem Sex Role Inventory (BSRI; Bem, 1974), (b) the Personal Attributes Questionnaire (PAQ; Spence, Helmreich, & Stapp, 1974, 1975), and (c) the PRF ANDRO based on Jackson's Personality Research Form (Berzins, Welling, & Wetter, 1978). In addition, two traditional M-F tests have been adapted to allow masculinity and femininity to be scored independently: Heilbrun's (1976) inventory of the Adjective Check List and Baucom's (1976) independent masculinity and femininity scales of the California Psychological Inventory (CPI).

Bem (1974) argued for the possibility that individuals might be both masculine and feminine, or both instrumental and expressive, depending on the situational appropriateness of those behaviors, and, conversely, that "sex-typed" individuals, that is, masculine males and feminine females, might be limited in the range of behaviors available to them. Bem suggested that highly sex-typed individuals are motivated to keep their behavior consistent with an internalized sex-role standard, inhibiting behavior considered undesirable or inappropriate to their sex, and she hypothesized that androgynous individuals would exhibit more flexibility in

their responses and actions. Implicit in Bem's theory is the belief that greater flexibility and adaptability is related to psychological health.

Bem (1975, 1976) argued that a high level of sex-stereotyping may not be desirable and noted research showing high femininity in females to be correlated with high anxiety, low self-esteem, and low social acceptance, and high masculinity in adult males to be correlated with high anxiety, high neuroticism, and low self acceptance. Bem hypothesized that masculinity and femininity might each be negative if not balanced by the other.

> ... extreme femininity, untempered by a sufficient concern for one's own needs as an individual, may produce dependency and self-denial, just as extreme masculinity, untempered by sufficient concern for the needs of others, may produce arrogance and exploitation.... Thus, for fully effective and healthy human functioning, both masculinity and femininity must each be tempered by the other, androgynous personality. (Bem, 1976, p. 51)

Bem (1975) argued that an androgynous self-concept would allow an individual to engage freely in both masculine and feminine behaviors and hypothesized that androgynous individuals would be more likely than masculine or feminine individuals to display sex-role adaptability across situations and to engage in situationally effective behavior regardless of its "appropriateness" for their sex. The hypothesis was tested by attempting to evoke a stereotypically masculine behavior, specifically, Independence from social pressure, and a stereotypically feminine behavior, specifically, nurturance or playfulness toward a kitten. Bem found that masculine and androgynous individuals were significantly more likely to exhibit independence from social pressure as predicted and that feminine and androgynous men were significantly more likely to exhibit playful or nurturant behavior toward the kitten as predicted. Feminine females, however, were less likely to show nurturant or playful behavior than androgynous females while masculine females were no less likely to do so.

In an attempt to determine whether the low level of nurturance shown by feminine females was unique to their interaction with animals, Bem, Martyna, and Watson (1976) conducted two further experiments, one involving interaction with a human infant, and the other

designed to evoke sympathetic and supportive listening which did not require the individual to play an active or initiating role in the interaction. Bem et al. also tested the hypothesis that use of a median split technique which distinguished androgynous and undifferentiated individuals would alter the outcome of the experiments. The results of the experiments duplicated the finding of Bem's previous experiment that feminine and androgynous males were significantly more nurturant in their behavior than masculine males. The results also suggested that the low nurturance exhibited by feminine females in the previous experiment may have been situation specific, as there was a tendency for feminine females to exhibit more nurturant behavior in a situation involving interaction with a human infant and a clear indication of more nurturant behavior in a situation which required passive support only.

Bem and Lenney (1976) further investigated the relationship between sex-role orientation and "cross-sex behavior" to determine whether such behavior is "motivationally problematic" for masculine males and feminine females or whether sex-typed individuals would freely engage in such behavior if the situation were structured to encourage it. Bem and Lenney found that sex-typed individuals were significantly more likely to engage in sex-appropriate behaviors, even with a monetary incentive to do otherwise, and more likely to report negative feelings when they did engage in cross-sex behaviors, especially in the presence of an opposite-sex experimenter. Bem and Lenney concluded, on the basis of the experiment, that sex-typing does restrict behavior in unnecessary and perhaps dysfunctional ways.

The question of greater behavioral flexibility and adaptability has received considerable attention in the research since Bem's early experiments which suggested that androgynous individuals were behaviorally more flexible. Orlofsky and Windle (1978), following Bem's (1977) acceptance of the restriction of the term "androgyny" to individuals with both high masculinity and high femininity scores, sought to determine whether behavioral flexibility is the result of an adaptive strength associated with high levels of masculinity and femininity (androgyny) or the result of the freeing effects of a lack of identification with either sex-typed role (undifferentiated orientation), or both. Behavioral adaptability was assessed by scores on a measure of

interpersonal assertiveness, which Orlofsky and Windle considered to be a characteristic typical of the masculine, instrumental orientation, and a measure of affect cognition which was considered to be a characteristic typical of the feminine, expressive orientation. Adjustment was also assessed using several of the Omnibus Personality Inventory Scales. Orlofsky and Windle found that an androgynous sex-role orientation leads to greater behavioral flexibility than a sex-typed or cross-sex-typed orientation and is associated with high levels of self-esteem and personal integration. Cross-sex-typing permits more effective "opposite sex behaviors", and is associated with high self-esteem in women and low self-esteem in men, and subjective feelings of discomfort and alienation in both sexes. Sex-typing, while associated with a subjective sense of well-being, was found to correlate negatively, in women, with the measure of self-esteem.

Helmreich, Spence, and Holahan (1979), in a conceptual replication of Bem and Lenney's (1976) study, using the PAQ, found that androgynous and masculine subjects of both sexes had higher comfort ratings performing a series of masculine, feminine, and neutral activities, independent of task, than did feminine or undifferentiated subjects. In forced-choice situations, significant differences were found only in males, masculine males exhibiting stronger preference for sex-typed tasks than other groups. Furthermore, sex-role orientation accounted for only a small percentage of the variance. Helmreich et al. concluded that the trait dimensions measured by the scale are conceptually distinguishable from sex-role attitudes and sex-role behaviors and may be only minimally associated with them.

Spence and Helmreich (1978) argued that distinguishing between expectations about the ways typical men and women behave, that is, attitudes regarding appropriate behavior for women and men, and "masculinity" and "femininity" as personality characteristics is necessary in ensuring clarity in research on sex roles. In a study designed to assess the relationship between masculine and feminine traits, as measured by the PAQ, and sex-role attitudes, measured by the Attitudes Toward Women Scale (AWS), Spence and Helmreich found that, although subjects perceiving large differences in the characteristics of the sexes had more traditional sex-role attitudes, the relationship between subjects' scores on the AWS and their

self-report on the PAQ was weak. While there was a tendency for "traditional" men and women to be more masculine or feminine, respectively, on the PAQ, correlations were low and not uniformly significant.

Orlofsky (1981), in assessing the relationship between personality traits measured by the PAQ, sex-role attitudes measured by the AWS, and sex-role behaviors, measured by a the Sex Role Behavior Scale-1, developed by Orlofsky, also found only minimal relationships between traits and behaviors, traits and attitudes, and attitudes and behaviors, although the relationships obtained tended to be positive across the scales.

However, Orlofsky, Cohen, and Ramsden (1985), in a replication of that study using the revised Sex Role Behavior Scale, found fairly strong relationships for each sex between the behavior scales and the trait scales. The revised scale added a number of items to allow for the calculation of scores on each of four subscales, namely recreation, vocational interests, social interaction, and marital relations. Orlofsky et al. found that the relationship between sex-role traits and behaviors appeared to be stronger in some areas than others and suggested that the revisions to the scale may account for the difference in results. Moderate relationships were also found between sex-role attitudes and behaviors. Orlofsky et al. argued that those relationships give support to Bem's cognitive-developmental perspective (Bem, 1981b) that the gender schemas of sex-typed individuals predispose them to follow traditional sex-role prescriptions in their self-concepts and behaviors and to avoid behaviors typically associated with the opposite sex. On the other hand, Orlofsky et al. noted that the sex-role behavior differences were attributable, in larger part, to sex than to sex-role traits and that the relationships demonstrated are far from perfect. In addition, the behavior area subscales were shown to be only partially correlated, giving support to Spence and Helmreich's position that many other variables besides instrumental and expressive personality traits are important in the determination of sex-role behaviors. Orlofsky et al. concluded that, although there is overlap among sex-role phenomena, masculinity and femininity are not unidimensional and sex-role behaviors cannot be inferred automatically from sex-role traits or attitudes.

Contrary to Bem's hypothesis that sex-typed individuals are less well psychologically adjusted, Deutsch and Gilbert (1976) found that, while androgyny was related to adjustment, as measured by the Revised Bell Adjustment Inventory, for women, masculinity was more, not less, adjustive for men than androgyny. Deutsch and Gilbert concluded that the consequences of an androgynous self-concept may be different for women and men, given the social context of a male-oriented culture. They suggested that the poorer adjustment demonstrated by female subjects was related, not to sex-typing, but to the much greater extent of discrepancy in the female subjects between "real self", "ideal self", and belief about what the opposite sex views as ideal attributes.

Silvern and Ryan (1979), in a replication study that used the median-split scoring system, also found that superior adjustment was associated with androgynous rather than sex-typed orientations only among women, not among men. Furthermore, adjustment differences among sex-types were accounted for by differences in masculinity, leading Silvern and Ryan to the conclusion that masculinity is the primary predictor of adjustment.

Jones, Chernovetz, and Hansson (1978) also found masculinity to more predictive of adjustment than androgyny. Jones et al. compared androgynous with sex-typed and opposite sex-typed individuals along several attitudinal, personality, and behavioral dimensions. They hypothesized that androgynous individuals would be less neurotic, more extraverted, more internal in terms of locus of control, higher in self-esteem, and have fewer alcohol-related problems. Contrary to prediction, Jones et al. found that less sex-typed men experienced more, rather than fewer, adjustment problems, and, in no instance, did androgynous men's scores indicate more adaptability. Among women, masculine females were more extraverted than androgynous or feminine females; no other differences were found between the groups on the personality measures. Jones et al. concluded, on the basis of those results, that masculinity, rather than androgyny, is the best measure of psychological adjustment for both men and women.

Bassoff and Glass (1982), in a meta-analysis of 26 studies relating mental health and sex roles, found a strong positive relationship between masculinity and mental health. Although androgyny was associated with higher levels of mental health than femininity, it was the masculine component of androgyny, rather than the integration of masculinity and femininity, which was responsible for the difference.

Taylor and Hall (1982) conducted a meta-analytic study to compare the "balance" androgyny position represented by Bem's early writing, which suggests interaction effects between masculinity and femininity, with the androgyny formulation of Spence and her associates, which would predict a main effect of masculinity and a main effect of femininity. Taylor and Hall concluded that both masculinity and femininity showed positive effects, regardless of sex of subject, with measures of psychological well-being, although the effect of masculinity was considerably greater. In general, interaction effects were small relative to the masculinity main effects which were predominant, and Taylor and Hall concluded that there was little support for a "balance" androgyny hypothesis.

Whitley (1983) conducted a meta-analytic review of 35 studies investigating the relationship between sex-role orientation and self-esteem, considered an indicator of psychological well-being. Self-esteem measures were classified as measures of global self-esteem and social self-esteem, the latter referring to a person's sense of adequacy or worth in social interactions with others. Whitley found masculinity, femininity, and the interaction between the two to be all positively related to self-esteem, with masculinity carrying the greater weight, accounting for 27 percent of the variance versus three percent of the variance accounted for by femininity effect sizes. Masculinity effect sizes were greater on measures of social self-esteem than on measures of global self-esteem. Whitley also noted several methodological concerns, perhaps most important being the question of shared measured variance on the sex-role and self-esteem measures because of the almost exclusive use of socially desirable trait descriptions on the sex-role measures.

Whitley (1984), in another meta-analytic review, investigated the relationship between sex-role orientation and depression (13 studies) and sex-role orientation and other, more general, measures of psychological adjustment (24 studies). He found a negative relationship between masculinity and depression, and no relationship between depression and femininity, sex of subject, or sex by sex-role interaction. With respect to general adjustment, positive relationships were found between adjustment and masculinity and femininity, although effect sizes were smaller for femininity. No relationships were found between adjustment and sex of subject or sex by sex-role interaction. Whitley concluded that the results of his studies indicate support for the "masculinity model" and suggested that the relationship between masculinity and low depression and high general adjustment may reflect strong beliefs in self-efficacy measured by the "agentic-masculine" scale of the sex-role inventories. He further speculated that the smaller relationship with femininity may reflect a lower societal emphasis on communal relationships as a source of reward and achievement.

Adams and Scherer (1985) investigated the relationship between sex-role orientation, adjustment as measured by the Minnesota Multiphasic Personality Inventory (MMPI), a measure of assertiveness, and a measure of self-efficacy. Masculine and androgynous subjects demonstrated greater adjustment as measured by the MMPI, and masculine subjects demonstrated greater adjustment than androgynous subjects. Adams and Scherer hypothesized that conflicting response tendencies may be present in androgynous individuals, or, alternatively, that femininity per se is detrimental to psychological adjustment. Masculine subjects scored significantly higher than androgynous, feminine, and undifferentiated subjects on measures of general self-efficacy and assertiveness. Masculine and androgynous subjects scored significantly higher than feminine and undifferentiated subjects on a measure of social self-efficacy.

Very few studies of the relationship between sex-role orientation and psychological well-being have looked at groups other than college students. Rendely, Holmstrom, and Karp

(1984) investigated the relationship between sex-role orientation and mental health in suburban homemakers using the SCL-90-R, which is a self-administered check list. Homemakers were divided into two groups: full-time homemakers and part-time homemakers. Although sex-role group was found to be significant, neither homemaker status nor the interaction of homemaker status and sex role were significant. On a majority of the dimensions, androgynous and masculine groups tended to report the fewest symptoms. Depression was the most important symptom distinguishing sex-role groups, with anxiety, psychoticism, and absence of hostility next, and with interpersonal sensitivity and absence of somatization least strongly represented.

Implicit in the research on the relationship between sex-role orientation and adjustment is that masculine and androgynous sex-role traits contribute to more effective coping strategies. Reilly (1982) tested the hypothesis that masculine and androgynous women would be more likely to use direct action coping strategies versus palliative coping strategies with a differential effect in cognitive response to str s. Androgynous women reported a significantly greater tendency to use direct action techniques than feminine and undifferentiated women. Direct action coping was further related to significantly lower scores in the category of defense of self.

Luckman (1984) used Burke's questionnaire of coping behaviors to test the validity of Bem's theory of androgynous flexibility in coping behaviors to deal with everyday stress. He found, consistent with the postulation that women are more encouraged to display cross-sex behaviors than men, that females had higher coping flexibility indices than males. He also found that feminine individuals had higher coping flexibility indices than masculine individuals. Among males and females, separately, androgyny showed no significant advantage over sex-typing. Those results are contrary to what would be expected on the basis of other research regarding sex-role orientation and behavioral flexibility and suggest that further work might be done in this area.

In conclusion, most of the sex-role research suggests that, for women, higher levels of "masculine" personality traits are related to better adjustment regardless of the kinds of measures of adjustment used. The literature also suggests, however, that femininity and masculinity are not unidimensional constructs and that, while personality traits may be one component, attitudes and behaviors are another. In looking at the relationship between sex role and adjustment to any specific event, it is, therefore, important to look at various facets of the sex-role construct.

Questions arising from the sex-role literature are:

1. Given the positive effect of high endorsement of masculine attributes on adjustment generally, will there be a positive relationship between masculinity and adjustment to hysterectomy?

2. In addition, will less traditional sex-role attitudes be related to positive adjustment, or will less traditional attitudes, rather than masculine personality traits, be related to positive adjustment?

3. Will sex-role orientation influence the coping strategies employed by women undergoing hysterectomy?

CHAPTER III

Methodology

The purpose of the study was to examine factors which distinguish women who experience problems in post-hysterectomy adjustment from women who do not, and, in particular, to determine whether "feminine" personal attributes or traditional attitudes toward the role of women are more common in women experiencing problems. This chapter describes procedures used in data collection, the subjects in the study, instruments, and method of data analysis.

Procedures

Letters were sent to all gynecologists listed in the register of the Alberta College of Physicians and Surgeons practising in the Edmonton area requesting permission to make questionnaires available in their offices to women who had had a hysterectomy (Appendix A). A copy of the questionnaire (Appendix B) was attached and a letter of support from an Edmonton gynecologist (Appendix C). A total of 52 gynecologists in 24 offices were contacted; permission to distribute questionnaires was received from 27 gynecologists in 11 offices.

Two hundred and sixty-five questionnaires were distributed with attached postage-paid envelopes. A covering letter (Appendix D) was attached to each questionnaire indicating that participation was voluntary and that all results would be presented in such a manner as to ensure confidentiality.

At the end of the study, 56 uncompleted questionnaires were recovered from gynecologists' offices.

Subjects

The study is based on results from 77 subjects. Age of subjects ranged from 25 to 69. Seven percent were single, 74 percent married, and 20 percent were separated, divorced, or widowed. Thirty-three percent had had the hysterectomy less than one year ago, 16 percent had the hysterectomy from one to two years ago, 29 percent had the hysterectomy from two to ten years ago, and 22 percent had the hysterectomy ten or more years ago. Reasons for the hysterectomy included cancer or fear of cancer, fibroids, endometriosis, menstrual dysfunction with and without associated pain, and other gynecological diseases or problems.

Instruments

The questionnaire (Appendix B) completed by participants was comprised of the following elements:

1. Basic demographic data and information regarding the hysterectomy including several open-ended questions regarding positive and/or negative changes in the respondent's life occurring as a result of the hysterectomy.

2. Coping behaviors used by the respondent when it became apparent that a hysterectomy might be necessary. The list developed is based on Weisman's conceptual framework. Weisman (1979) defines coping as "what one does about a problem in order to bring about relief, reward, quiescence, and equilibrium" (p. 27). Weisman lists the following as illustrations of coping strategies:
   (a) seeking more information (rational inquiry);
   (b) sharing the concern and talking with others (mutuality);
   (c) laughing it off; making light of the situation (affect reversal);

(d) trying to forget; putting it out of one's mind (suppression);
(e) doing other things for distraction (displacement/redirection);
(f) taking action based on present understanding (confrontation);
(g) accepting, but finding something favorable (redefinition, revision);
(h) submitting to the inevitable; fatalism (passive acceptance);
(i) doing something, anything, however reckless or impractical (impulsivity);
(j) considering or negotiating feasible alternatives;
(k) reducing tension with excessive drink, drugs, or danger (life threats);
(l) withdrawing into isolation; getting away (disengagement);
(m) blaming someone or something (externalization, projection);
(n) seeking direction; doing what one is told (cooperative compliance);
(o) blaming oneself; sacrificing or atoning ("moral masochism").

Weisman argues that strategies intermingle and are seldom found by themselves. Respondents were, therefore, asked to check as many of the listed strategies as were applicable.

3. A five-point hysterectomy adjustment scale, adapted from the scale developed by Handman (1983), and based on the literature regarding psychological effects of hysterectomy. The items of the scale are designed to assess (a) feelings of psychological well-being; (b) effect on interpersonal relations; (c) feelings of loss and changes regarding self-concept as a woman; and (d) prevalence of commonly reported psychological sequelae.

4. The Spence-Helmreich Attitudes Toward Women Scale (Spence & Helmreich, 1978). The scale contains statements "describing the rights, roles, and privileges women ought to have or be permitted" (p. 39) and requires respondents to indicate their agreement with each statement on a scale ranging from "agree strongly" to "disagree strongly." Items were scored 1 to 5 on a five-point scale, to conform with the five-point Likert scales used for the majority of

the questionnaire . High scores indicate a profeminist, egalitarian attitude; low scores, a more traditional attitude. The fifteen-item version used in the questionnaire has been found to have a correlation of .91 with the original fifty-five item scale in a sample of college students. Spence & Helmreich report a Cronbach alpha of .89 on the fifteen-item form in a sample of college students. Daugherty and Dambrot (1986) obtained Cronbach alpha and Spearman-Brown split-half reliabilities on the fifteen-item scale of .85 and .86, respectively, in a sample of 43 female students, their mothers and grandmothers (N=129). In a second study of 511 male and female students, Cronbach alphas of .81 and .84 and Spearman-Brown split-half reliabilities of .83 and .87 were obtained on a pretest and posttest, respectively. Test-retest reliability after an interval of three weeks was found to be .86.

Five additional questions were added to the fifteen-item form of the AWS dealing specifically with attitudes toward the role of women vis-a-vis child-bearing and child-rearing. One item was from the 55-item form of the AWS, one item was from the Sex Role Ideology and Family Orientation Scale (Angrist, Mickelsen, & Penna, 1976), two items were from the Sex-Role Survey (MacDonald, c1975), and one item was developed for the study.

5. The Bem Sex Role Inventory (Bem, 1981a). The short form of the BSRI, consisting of 30 filler items was used. On the basis of the individual's response to the 30 personality descriptors, the subject receives a masculinity score based on endorsement of masculine items and a femininity score based on endorsement of feminine items. A median split technique was used to classify respondents as feminine (femininity score $\geq$ 5.70, masculinity score < 4.80), masculine (femininity score < 5.70, masculinity score $\geq$ 4.80), androgynous (femininity score $\geq$ 5.70, masculinity score $\geq$ 4.80), or undifferentiated (femininity score <5.70, masculinity score < 4.80). The short form excluded items which did not correlate strongly with the femininity and masculinity scales and is, therefore, more internally consistent. Coefficient alphas, reported by Bem, for females, are .84 for the femininity scale and .86 for the masculinity scale, and, for males, .87 for the femininity scale and .85 for the masculinity scale. Lippa (1985) reports that the BSRI has good test-retest reliability. A decision was made to

use the BSRI, as opposed to other sex-role inventories, was made on the basis of the much greater use of that instrument in sex-role research.

Research Questions

1. What demographic factors, if any, distinguish women who experience difficulties with post-hysterectomy adjustment from women who do not? Specifically, are there significant differences between "good adjusters" and "poor adjusters" in terms of age at the time of the hysterectomy, marital status at the time of the hysterectomy, number of children, employment status at the time of the hysterectomy, or educational level?

2. What situational factors, if any, distinguish women who experience difficulties with post-hysterectomy adjustment from women who do not? Specifically, are there significant differences between "good adjusters" and "poor adjusters" in terms of type of hysterectomy, reason for hysterectomy, support from others, adequacy of information received, opportunities to talk about one's feelings with other women who have undergone a hysterectomy, or previous contact with a psychiatrist or psychologist for psychological problems?

3. Do women with more traditional attitudes regarding the role of women have more difficulties with post-hysterectomy adjustment? Do women who have more traditional views about a woman's child-bearing and child-rearing roles have more difficulties? That is, will there be any significant differences between "good adjusters" and "poor adjusters" on the AWS or the additional five items designed to tap attitudes on child-bearing and child-rearing?

4. Do women who ascribe traditionally feminine personality attributes to themselves; that is, women who are feminine in sex-role orientation, experience more difficulties with post-hysterectomy adjustment? Do women who ascribe traditionally masculine personality attributes to themselves, that is, women who are masculine or androgynous in sex-role

orientation, experience fewer difficulties with post-hysterectomy adjustment? That is, will there be a relationship between the adjustment scale and masculinity or femininity? Will there be any significant differences in the number of "good adjusters" and "poor adjusters" who are classified as masculine, androgynous, feminine, or undifferentiated in sex-role orientation?

5. Do the number or type of coping strategies which respondents report using distinguish women who experience difficulties with post-hysterectomy adjustment from women who do not? Is there any relationship between coping strategies used and sex-role orientation? That is, will there be any significant differences between "good adjusters" and "poor adjusters" in terms of number or type of coping strategies, and will there be any differences between androgynous, masculine, feminine, or undifferentiated individuals in terms of coping strategies reported?

6. What positive and negative changes do women report following hysterectomy?

Data Analysis

Several levels of data analysis were performed on questionnaire items. At the first level, frequency distributions were calculated on all items. At the second level, scores were calculated on the adjustment scale and its subscales (items number 36 to 55 of the questionnaire), on the Attitudes Toward Women Scale and related items on child-bearing and child-rearing (items number 56 to 75 of the questionnaire), and on the Bem Sex Role Inventory (items number 76 to 105 of the questionnaire). Masculinity scores on the BSRI are given by the mean response value to question numbers 76, 79, 82, 85, 88, 91, 94, 97, 100, and 103; femininity scores are given by the mean response value to question numbers 77, 80, 83, 86, 89, 92, 95, 98, 101, and 104. On the basis of responses to the BSRI, subjects were classified using a median split technique, as masculine, feminine, androgynous, or undifferentiated. Reliability analyses were conducted on the scales. Pearson correlations were conducted between the adjustment scale, the AWS and related items, and the masculinity and

femininity scores of the BSRI. A one-way ANOVA was also conducted to determine whether there were any significant differences between individuals classified as masculine, feminine, androgynous, or undifferentiated on the adjustment scale.

At the third level, respondents indicating good adjustment (top quartile of scores on the adjustment scale) were compared with respondents indicating poor adjustment (bottom quartile of scores on the adjustment scale) to determine those factors which distinguished the groups. T-tests or chi square statistics were used, as appropriate, to determine whether there were any significant differences between the groups in terms of demographic or situational variables, sex-role attitudes, sex-role orientation, or coping strategies.

CHAPTER 4

Results and Discussion

This chapter contains (a) information on the questionnaire return rate, (b) a description of the sample in terms of responses on questionnaire items requesting information on demographic and situational variables, (c) results of the reliability analysis of the adjustment scale and a description of the sample in terms of subjects' responses to items on the adjustment scale, (d) results of the reliability analysis of the Attitudes Toward Scale and related items and the relationship between the AWS and the adjustment scale, (e) results of the classification of respondents as masculine, feminine, androgynous, or undifferentiated on the basis of responses to the Bem Sex Role Inventory and the relationship between the BSRI and the adjustment scale, (f) description of the sample in terms of reported use of coping strategies, (g) comparison of "good adjusters" and "poor adjusters" in terms of demographic and situational variables, sex-role attitudes, sex-role orientation, and coping strategies which addresses research questions one through five as outlined in Chapter III, and (h) responses to open-ended questions asking women what they perceived to be the positive and negative changes occurring as a result of the hysterectomy which addresses research question six outlined in Chapter III. The chapter concludes with a discussion of the results.

Questionnaire Return Rate

Eighty-three questionnaires were returned which represents a return rate of 40 percent of the questionnaires which were picked up from gynecologists' offices. Five questionnaires were returned after the analysis was completed, and one questionnaire was eliminated because of the large number of omitted responses, leaving 77 useable questionnaires.

Demographic and Situational Variables

Age of subjects ranged from 25 to 69 with a mean age of 42.4. Seven percent of subjects were currently single, 74 percent married, and 20 percent divorced, separated, or widowed. Eight percent reported being single at the time of the hysterectomy, 78 percent were married, and 14 percent were separated, divorced or widowed. Those who were married had been married an average 14.9 years at the time of the hysterectomy, with the number of years ranging from one to 31.

Respondents had an average of 2.3 children with a range from zero to seven. Twelve percent had no children, 12 percent had one child, 42 percent had two children, 17 percent had three children, and 18 percent had four or more children.

Thirty-three percent of respondents reported that they were currently working outside the home on a full-time basis, and 22 percent reported doing so on a part-time basis. Forty-three percent reported working full-time and 23 percent reported working part-time at the time of the hysterectomy.

With respect to educational level at the time of the hysterectomy, 21 percent reported being a university graduate, 20 percent reported being a college or technical school graduate, 29 percent reported being a high school graduate, 28 percent reported that the highest level of education was less than Grade 12, and three percent reported that the highest level of education was less than Grade 9.

Length of time since the respondent had the hysterectomy ranged from one month to 20 years with the average being five years. Thirty-three percent of respondents had the hysterectomy less than one year ago, 16 percent had the hysterectomy from one to two years ago, 29 percent had the hysterectomy from two to ten years ago, and 22 percent of the respondents had the hysterectomy ten or more years ago. The average age at which

respondents had the hysterectomy was 37.7 with a standard deviation of 8.9 years and a range from age 22 to age 67. The frequency of women having a hysterectomy at age 30 or younger, between age 30 and age 40, and after age 40 is indicated in Table 1.

Table 1

Age at Time of Hysterectomy

	Frequency	Percent
Age		
30 or younger	20	26.7
Between 30 and 40	26	34.6
Older than 40	29	38.7
Total	75	100.0

Respondents were requested to indicated the reason for surgery on the questionnaire and responses were subsequently categorized as (a) cancer, (b) fibroids, (c) endometriosis, (d) severe or prolonged menstrual flow, (e) severe menstrual flow with pain, and (f) other gynecological diseases or problems which included such reasons as pelvic inflammatory disease and prolapsed uterus. It is recognized that categories may be overlapping from an epidemiological point of view; however, it was felt that the individual's perception and characterization of the problem might influence adjustment more than the medical diagnosis of the problem. Table 2 indicates the frequency of respondents in each of those categories.

Table 2

Reason for the Hysterectomy

Reason	Frequency	Percent
Cancer or fear of cancer	12	15.6
Fibroids	15	19.5
Endometriosis	9	11.7
Severe or prolonged menstrual flow	16	20.8
Severe menstrual pain	15	19.5
Other gynecological diseases or problems	12	15.6
Total	77	100.0

Information received from doctors was considered by 81 percent of respondents to be helpful in coping, and information from friends was considered helpful by 57 percent of respondents. Information from nurses and from relatives was considered helpful by less than half the respondents (39 percent of respondents in both cases.) In general, the majority of respondents appeared to feel that they had been given sufficient information. Thirty percent would have liked more information regarding the procedure itself, 36 percent would have liked more information regarding physical effects, 30 percent would have liked more information regarding psychological effects, and 26 percent would have liked more information regarding

strategies for coping. Twelve percent indicated a desire for other information including information about weight gain, hospital procedures and routines, pros and cons of hormone medication, alternatives to hormone treatment, and how to deal with various physical symptoms such as gas.

High levels of support were indicated from spouses (77%) and friends (79%). Fifty-two percent of respondents indicated that parents had been supportive, 33 percent that coworkers had been supportive, and 30 percent listed other sources of support, the most often mentioned being children and siblings. Having an opportunity to talk to other women about one's feelings appeared to be helpful. Fifty-eight percent of respondents indicated that the opportunity to do so before the operation had been helpful, eight percent indicated that it had not been, and 34 percent indicated that they did not have such an opportunity. The number of women reporting that an opportunity to talk, after the hysterectomy, about their feelings with another woman who undergone hysterectomy was helpful was 60 percent, and the number of women reporting a negative experience was seven percent. Thirty-three percent of respondents indicated no such opportunity after the hysterectomy.

Eighteen percent of respondents reported that they had been under the care of psychiatrist or psychologist for problems such as depression or anxiety or for other psychological problems at some point prior to the hysterectomy. Those respondents were no more likely to report negative changes on an open-ended question asking respondents about negative changes following hysterectomy than were respondents who reported no such previous history.

Adjustment to Hysterectomy

Adjustment to hysterectomy was measured by a five-point hysterectomy adjustment scale adapted from the scale developed by Handman (1983). The scale included a total of 20 items with a maximum score of 100. The mean score on the scale was 78.8 and the standard

deviation was 14.4. Subscale scores were also computed. Each subscale included five items with a maximum score of 25. Mean scores and standard deviations for each subscale are shown in Table 3. A reliability analysis of the scale was conducted and a Cronbach coefficient alpha of .91 obtained. All items were positively correlated with the scale with a mean inter-item correlation of .35. In summary, the instrument appears to be an internally consistent scale with good reliability.

Table 3

Subscale Means and Standard Deviations

	Mean	Standard Deviation
Subscale		
Feelings of psychological well-being	20.6	3.6
Effect on interpersonal relations	18.8	3.8
Feelings of loss/changes re: self-concept	21.1	4.7
Prevalence of common psychological sequelae	19.1	5.1

In general, scores on the scale and the subscales indicate a high degree of adjustment. On the subscale assessing feelings of psychological well-being, 94 percent of respondents indicated agreement with the statement, "I feel I coped well with having a hysterectomy." Although the number of women who reported that the hysterectomy had improved their

general health and well-being was high (73%), 20 percent of respondents were undecided, and eight percent of respondents indicated disagreement with the statement, "Having the hysterectomy has improved my general health and well-being."

With respect to effect on interpersonal relationships, ten percent of respondents indicated that the hysterectomy negatively affected the respondent's family life and 15 percent of respondents indicated that sexual relations deteriorated as a result of the hysterectomy. On the other hand, 21 percent of respondents indicated that they felt more sexually attractive since the hysterectomy and 46 percent of respondents indicated positive changes in their relationship with spouse or partner as a result of the operation.

With respect to feelings of loss and changes regarding self-concept as a woman, 24 percent of respondents indicated that the hysterectomy left them with a feeling of loss, 20 percent indicated a continuing desire to have the potential to become pregnant, and nine percent reported being unhappy with not being able to menstruate any more. Seven percent of respondents indicated that they felt less a woman as a result of the hysterectomy, and ten percent of respondents indicated that they felt less feminine than before the surgery.

With respect to those symptoms following hysterectomy which are commonly reported in the literature, 33 percent of respondents indicated feelings of depression following surgery, 19 percent reported feeling more anxious, 16 percent reported more difficulty sleeping, 14 percent reported more headaches, and 11 percent reported more troubling dreams.

Attitudes Regarding the Role of Women

The fifteen-item Spence-Helmreich Attitudes Toward Women Scale plus an additional five questions dealing specifically with attitudes toward the role of women vis-a-vis child-bearing and child-rearing were used to assess the extent to which respondents were traditional or nontraditional in their views regarding the role of women. Reliability analyses of the 15-item

Spence-Helmreich Scale and the 20-item expanded scale were conducted. The Cronbach coefficient alpha for the 15-item scale was .82, and for the 20-item scale, .85. All individual items correlated positively with both scales.

High scores on the scales are indicative of "profeminist, egalitarian" attitudes toward the role of women; low scores are indicative of more traditional attitudes toward the role of women. Mean scores on the 15-item scale (maximum score 75) and the 20-item scale (maximum score 100) were 57.0 and 73.9 respectively, with standard deviations of 9.8 and 12.4.

Correlation of the attitudes toward women scales with the hysterectomy adjustment scale indicated no significant relationship between adjustment and attitudes toward the role of women. The correlation coefficient between the adjustment scales and the 15-item scale was .08. Although the correlation between the adjustment scale and the expanded attitudes toward women scale was slightly higher (.13), the relationship was not significant. Nor was there a significant relationship between the adjustment scale and the five items which focused specifically on attitudes to child-bearing and child-rearing.

Sex-Role Orientation

The short form of the Bem Sex Role Inventory was used to assess sex role orientation, that is, whether respondents characterized themselves as having more traditionally "feminine" qualities or as having more traditionally "masculine" qualities. On the basis of a median-split technique, respondents were classified as feminine, masculine, androgynous and undifferentiated. Using the normative medians reported by Bem, 21 percent of respondents were classified as feminine, 26 percent as masculine, 38 percent as androgynous, and 16 percent as undifferentiated.

A one-way analysis of variance of adjustment by classification found no significant difference between groups at the .05 level. There was, however, a slight trend for the femininity score to be correlated with the adjustment scale ($r=.20$, $p<.10$).

Coping Behaviors

The most commonly reported strategies for coping, in order of prevalence, were "focused on the positive aspects of having a hysterectomy" (82%), "tried to get as much information as possible about the operation and its effects" (68%), talked with others and shared my concerns (58%), and "relied on my doctor to look after me" (57%). Table 4 indicates the frequency of respondents reporting use of the identified coping strategies.

Table 4

Frequency With Which Specified Coping Strategies Were Used

	Frequency	Percent
Rational inquiry	52	67.5
Mutuality	45	58.4
Affect Reversal	11	14.3
Suppression	6	7.8
Displacement/Redirection	9	11.7
Confrontation	32	41.6
Redefinition/Revision	63	81.8
Passive Acceptance	31	40.3
Impulsivity	3	3.9
Considering/Negotiating Alternatives	20	26.0
Use of Alcohol, Food, or Drugs	8	10.4
Disengagement	6	7.8
Externalization/Projection	3	3.9
Cooperative Compliance	44	57.1
"Moral Masochism"	5	6.5

In terms of number of coping strategies used, respondents indicated a range from zero to ten with a median of four. The mean number of strategies used was 4.4 with a standard deviation of 1.9. Table 5 indicates the distribution of respondents in terms of the number of coping strategies used.

Table 5

Number of Coping Strategies Used

Number	Frequency	Percent
0	1	1.3
1	1	1.3
2	9	11.7
3	15	19.5
4	17	22.
5	16	2
6	9	
7	4	5.2
8	3	.9
9	0	0.0
10	2	2.6

A comparison of individuals classified as feminine, masculine, androgynous and undifferentiated indicated no significant differences with respect either to the number of coping strategies or the specific strategies reported. In terms of the masculinity and femininity scores of the BSRI, there was a significant negative correlation between masculinity[1] and the use of withdrawal as a coping strategy ($r=-.25$, $p<.05$) and a tendency for masculinity to be negatively correlated with reliance on one's doctor to provide appropriate care ($r=-.21$, $p<.10$).

Comparison of "Good Adjusters" and "Poor Adjusters"

On the basis of their responses on the adjustment scale, respondents were divided into "poor adjusters" (bottom quartile) and "good adjusters" (top quartile). A total of 19 respondents were, by that procedure, included in the group of "poor adjusters." The mean score for those respondents was 58.8, with a standard deviation of 9.9, a minimum score of 30 and a maximum score of 71. Twenty respondents were included in the group of "good adjusters." The mean score for those respondents was 94.1, with a standard deviation of 2.8, a minimum score of 91 and a maximum score of 100.

Those two groups of respondents were then compared with respect to the demographic and situational variables to determine whether there were any significant differences between the groups in terms of those variables. In general, there were few distinguishing variables. However, significant differences were found with respect to number of children, reason for the hysterectomy, report of negative changes, helpful information from relatives, and desire for more information regarding physical effects, psychological effects, and strategies for coping.

Women with no children or one child only were significantly more likely to be "poor adjusters" ($X^2=3.72$, $p<.05$), 42 percent of them falling into that category compared with ten percent of "good adjusters." Alternatively "poor adjusters" tended to have more children than the norm, specifically four or more. Table 6 indicates the number of "poor adjusters" and "good adjusters" with no children, one child, two children, three children, and four or more children.

Table 6

Number of Children by Adjustment Group

	"Poor Adjusters"		"Good Adjusters"	
	Frequency	Percent	Frequency	Percent
Number of Children				
No children		5	26.3	1
5.0				
One child	3	15.8	1	5.0
Two children	3	15.8	13	65.0
Three children	2	10.5	3	15.0
Four or more children	6	31.6	2	10.0

Women who identified a disease process (cancer, fibroids, endometriosis, other gynecological diseases or problems such as pelvic inflammatory disease, prolapsed uterus) were significantly more likely to be "poor adjusters" than women who indicated menstrual dysfunction as the reason for hysterectomy (χ^2=8.05, p<.005). Table 7 indicates the breakdown of those results by category.

Table 7

Reason for Hysterectomy by Adjustment Group

	"Poor Adjusters"		"Good Adjusters"	
	Frequency	Percent	Frequency	Percent
Reason				
Cancer or fear of cancer	5	26.3	2	10.0
Fibroids	3	15.8	5	25.0
Endometriosis	5	26.3	0	0.0
Severe menstrual flow	2	10.5	6	30.0
Severe menstrual flow with pain		1	5.3	5
25.0				
Other gynecological diseases or problems	3	15.8	2	10.0

Significantly more "poor adjusters" reported negative changes on open-ended questions asking respondents about positive and negative changes following hysterectomy (X^2=6.92, p<.01), 56 percent of "poor adjusters" doing so compared with 15 percent of "good adjusters." No significant difference was found between the number of "poor adjusters" and "good adjusters" reporting positive changes.

In what is a counterintuitive result, women classified as "poor adjusters" were significantly more likely to have reported receiving helpful information from relatives (X^2=5.61, p<.05). Information from other sources was perceived to be equally helpful by both "poor adjusters" and "good adjusters."

Finally, women classified as "poor adjusters" were significantly more likely to have expressed a desire for more information on physical effects (X^2=6.21, p<.01), psychological effects (X^2=10.92, p<.001), and strategies for coping (X^2=16.13, p<.001). A comparison of the frequency in each group is shown in Table 8.

Table 8

Comparison of Adjustment Groups With Respect to Desire for More Information

	"Poor Adjusters"		"Good Adjusters"	
	Frequency	Percent	Frequency	Percent
Desired more information on physical effects	10	52.6	3	15.0
Desired more information on psychological effects	10	52.6	1	5.0
Desired more information on strategies for coping	11	57.9	0	0.0

Sex-role attitudes do not appear to be a factor distinguishing women who experience problems post-operatively from women who do not. Comparison of the "poor adjusters" and "good adjusters", using a t-test, indicated no significant difference between the groups on the 15-item Attitudes Toward Women Scale or on the expanded 20-item scale.

Sex-role orientation does not appear to distinguish women who experience problems post-operatively from women who do not. A comparison of "poor adjusters" and "good adjusters" indicates no significant difference in classification of respondents as feminine, masculine, androgynous or undifferentiated. Nor is there any significant difference between the groups, when defined as the bottom and top quartiles, on either the masculinity or femininity scores. However, those respondents with the most extreme low scores, that is, respondents with scores one standard deviation below the mean or more had, contrary to expectation, a significantly lower femininity score ($t=-2.31$, $df=23$, $p<.05$). The femininity score is described by Spence and her colleagues as a measure of interpersonally-oriented or nurturant traits, suggesting that women who perceive themselves as lacking those attributes have more problems adjusting to hysterectomy. This conclusion should be interpreted cautiously, however, because of the small number of respondents in this category.

Finally, no significant difference was found between "poor adjusters" and "good adjusters" in terms of the number or type of coping strategies reported.

Positive and Negative Changes Reported

Considerably more women reported positive changes following hysterectomy than negative changes. Seventy-eight percent of respondents indicated that the hysterectomy had resulted in positive changes in their lives. Positive changes most often indicated included improved health and feelings of well-being, freedom from pain, no more PMS, no more troublesome periods, no more inconvenience and expense associated with periods, freedom from fear of pregnancy, no worry regarding birth control, improved sexual relations, freedom from the embarrassment of "accidents" associated with heavy, unpredictable menstrual flow, increased self-confidence, and a "freer lifestyle", specifically, a feeling of being free to do as one pleases (e.g. physical activity) when desired as well as a more general feeling of being carefree. One woman (diagnosed as having cervical cancer) indicated that she had come to a realization that life didn't last forever and was training for a new career. Another noted that her

husband was infertile and that her hysterectomy had made the responsibility for not being able to have children mutual.

Twenty-nine percent of respondents indicated that the hysterectomy had caused negative changes in their lives. Among the negative changes indicated were inability to bear children, depression, mood swings, hot flushes, weight gain, increased facial hair, sexual problems, adverse reactions from partners, lowered self-esteem, and post-operative problems.

Discussion

The major hypothesis of the study that sex-role identity would influence adjustment to hysterectomy was not confirmed. While a number of demographic and situational variables were found to distinguish "good adjusters" from "poor adjusters", neither the extent to which sex-role attitudes are traditional nor the the extent to which one's self-reported personal attributes are typically masculine or typically feminine does so.

The literature on sex-role orientation strongly suggests that there is a relationship between high masculinity scores on measures of sex-role orientation and general adjustment as indicated by high self-esteem and absence of psychopathology. Yet there was no relationship found in this study between high masculinity scores on the BSRI and the measure of adjustment to hysterectomy.

There are a number of possible reasons why no such relationship was found. One is the length of time between the time of hysterectomy and the time the questionnaire was completed. For 50 percent of respondents, that time period was in excess of two years. Forty percent of the respondents had undergone the hysterectomy more than five years ago, and, for 17 percent, the time period was in excess of ten years. Given the length of time between the hysterectomy and the report, there is a significant question about the accuracy of recall with respect to symptoms and feelings following the hysterectomy. There is also no evidence that

sex-role attitudes remain constant over that time period, nor that sex-role orientation remains constant, and it is, therefore, possible that assessing current sex-role attitudes and orientation and relating them to one's response to a hysterectomy performed many years ago is distorting the results.

Secondly, a question is raised regarding the validity of the hysterectomy adjustment scale. The scale attempts to tap various facets of adjustment to hysterectomy, specifically, subjective feelings of psychological well-being, effect on interpersonal relationships, feelings of loss and changes regarding self-concept as a woman, and prevalence of commonly reported psychological sequelae. While the adjustment subscales measuring those facets are positively correlated (correlations range from .46 to .65), the relationship of masculinity and femininity to each facet of adjustment is not necessarily the same, and relationships may be masked by grouping the subscales together.

If one examines the relationship between masculinity and femininity and each of the subscales, a correlation of .24 ($p<.05$) is found between the masculinity score of the BSRI and the subscale measuring the prevalence of commonly reported psychological sequelae such as headaches, depression, anxiety, and sleep disturbances. In terms of the individual items of that subscale, masculinity and femininity are not correlated with depression as might be expected from the sex-role research; however, femininity is positively correlated ($r=.23$, $p<.05$) with increased anxiety following hysterectomy. Both masculinity and femininity are positively correlated with increased difficulty sleeping following the hysterectomy ($r=.33$, $p<.01$ and $r=.23$, $p<.05$ respectively).

There was also a tendency for femininity to be positively correlated the subscale assessing feelings of psychological well-being ($r=.20$, $p<.10$). Within that subscale, femininity was positively related with a feeling of having coped well with the hysterectomy ($r=.25$, $p<.05$).

With respect to the relationship between the AWS and related items and the hysterectomy adjustment subscales, there is a tendency for less traditional attitudes regarding child-bearing and child-rearing to be associated with more positive adjustment in terms of effect on interpersonal relationships ($r=.20$, $p<.10$) and with fewer feelings of loss and change in self-concept as a woman ($r=.20$, $p<.10$).

To conclude, it appears that typically masculine or typically feminine personality characteristics may affect some aspects of adjustment more than others and that sex-role attitudes, at least as they relate to child-bearing and child-rearing, may affect some aspects of adjustment more than others. It is important, then, to establish the relative importance of validity of each of these identified factors in assessing adjustment to hysterectomy in order to make a clear statement about the relationship between sex-role identity and adjustment.

Thirdly, it may be that no relationship was found between sex-role orientation as measured by the BSRI and adjustment to hysterectomy or between sex-role attitudes as measured by the AWS and adjustment to hysterectomy, even though one's view of what it means to be a woman is a salient factor. As Spence and her colleagues have suggested on numerous occasions, the measures tap only limited dimensions of the multidimensional constructs of masculinity and femininity. Alternatively, it may be that sex-role orientation or attitudes are a factor only when the opportunity for child-bearing has not occurred. However, a two-way analysis of variance of adjustment by number of children and sex-role orientation shows no interaction effects and a main effect for number of children only, indicating that number of children is the operative variable.

Finally, it may be that other factors are more important in determining a woman's response to hysterectomy. Results of this study indicate that number of children and reason for the hysterectomy are two variables which are more important than sex-role orientation and attitudes. Women with no children or only one child were significantly more likely to experience difficulties post-operatively. Interestingly, there was also a tendency for women with four or more children

to be in the group of "poor adjusters", suggesting the possibility that, for women with more than the average number of children, motherhood may be more central to self-concept and loss of the ability to bear children therefore more distressing. In contrast to the findings of previous investigators (Barker, 1968; Richards, 1973), presence of gynecological disease was related to poorer adjustment to hysterectomy; however, cancer was the largest contributing factor in that group, and it may be that post-hysterectomy difficulties are related more to fear of recurring cancer than to loss of the uterus.

The study also found that "poor adjusters" were significantly more likely than "good adjusters" to report negative changes on open-ended questions soliciting responses about positive and negative changes following hysterectomy. Although it is possible that "poor adjusters" have a tendency to focus on the negative, "poor adjusters" by definition are those who experience more negative consequences to hysterectomy; therefore, the significantly higher report of negative changes following hysterectomy on the part of "poor adjusters" is expected. The fact that there is no difference between "poor adjusters" and "good adjusters" in terms of positive changes reported suggests that good adjustment is related more to the absence of negative consequences than to the presence of positive consequences.

"Poor adjusters" reported receiving helpful information from relatives significantly more often than "good adjusters" in what is a somewhat puzzling result. No differences were found in reports of receipt of helpful information from other sources and it does not appear, therefore, that "poor adjusters" were receiving information from relatives rather than from possibly other, more reliable, sources.

Finally, the study found that "poor adjusters" are significantly more likely to express a desire for more information on the physical or psychological effects of hysterectomy and on strategies for coping. This finding can be interpreted in two ways. One, it suggests that "poor adjusters" may have received less information and that adjustment problems were related to insufficient information. Alternatively, the desire for more information may be in response to a

greater incidence of post-hysterectomy problems. Since no assessment of the actual information received was made, it is not possible to determine which interpretation is correct.

CHAPTER V

Conclusions and Recommendations for Further Research

The purpose of this study was to examine factors which distinguish women who experience problems following hysterectomy from women who do not, and, in particular, to determine whether "feminine" personal attributes or traditional attitudes toward the role of women are more common in women experiencing problems. This final chapter presents conclusions arising from the study and recommendations regarding future research.

Conclusions

The results of this study indicate that the large majority of women adjust well psychologically to having a hysterectomy and that, for many women, there are psychological benefits. Seventy-three percent of the respondents indicated that the hysterectomy improved their general health and well-being, and 78 percent of respondents indicated that the hysterectomy caused positive changes in their life compared with 29 percent of respondents who indicated the hysterectomy caused negative changes. Overall, most respondents (94%) felt that they coped well with the hysterectomy.

Despite the generally positive adjustment to hysterectomy, there is still a group of women who experience difficulties following hysterectomy, the most commonly reported being post-hysterectomy depression (33% of respondents). Several factors were found to distinguish "poor adjusters", that is, women whose hysterectomy adjustment scores were in the bottom quartile, from "good adjusters", that is, women whose scores were in the top quartile. "Poor adjusters" were significantly more likely to have no children or one child only than were "good adjusters"; more likely to have identified a disease process, particularly cancer, as a reason for

the hysterectomy; and more likely to have expressed a desire fore more information on physical and psychological effects of hysterectomy and strategies for coping.

The results of this study suggest that "poor adjusters" are no more likely than "good adjusters" to have pre-operative psychological problems if previous assistance for psychological problems is used as an indicator. It should be noted, however, that investigators such as Martin et al. (1980) have found a preponderance of hypochondriacal or hysterical symptoms in hysterectomy patients. Since such individuals typically do not seek a psychological explanation for their problems, previous assistance for psychological problems may not be an accurate indicator of previous psychological problems.

The results of the study do not support the hypothesis that women who describe themselves as typically "feminine" in terms of personal traits are more likely to experience problems following hysterectomy than women who are more "masculine" in their orientation. Nor do the results of the study support the hypothesis that women who are more traditional in their attitudes toward the role of women are more likely to experience problems than women who are less traditional in their attitudes.

It was hypothesized that women who were more traditionally feminine in their orientation and who presumably saw child-bearing as more central to their concept of themselves as women would be more vulnerable to adverse psychological effects following hysterectomy. Conversely, women who were more masculine or androgynous in their orientation and more liberal in sex-role attitudes would have a broader view of what it means to be a woman and would be less vulnerable to difficulties in adjustment. Several studies have also suggested that femininity in women is negatively related to post-hysterectomy psychological problems (Palmer, 1984) and that masculinity in women is related to more positive adjustment to infertility (Adler & Boxley, 1985). The study showed no significant differences between "good adjusters" and "poor adjusters" in terms of sex-role orientation as measured by the BSRI, or in terms of sex-role attitudes as measured by the AWS.

Finally, no significant differences were found between "poor adjusters" and "good adjusters" in terms of number or type of coping strategies which respondents reported using. However, "poor adjusters" expressed a desire for additional information on coping strategies significantly more often than "good adjusters", suggesting that further research regarding interventions in this area might prove helpful to women who do experience problems. Groups might be used as a method for conveying information about the effects of hysterectomy and strategies for coping as well as providing an opportunity for women to talk about their feelings with other women who had undergone hysterectomy, an experience which a large proportion of respondents reported as useful.

Implications

The results of the study suggest that, although the majority of women adjust well psychologically to hysterectomy, there are a proportion of women who do not. Physicians should be aware that there is a percentage of women who experience negative psychological effects following hysterectomy and that certain groups of women, such as those with fewer than two children, may be more likely to do so.

The study also suggests that the establishment of on-going groups to which physicians could refer patients might be one means of providing additional support to patients in need. While not all women would need or want to avail themselves of such a service, there is a number for whom such an opportunity might prove beneficial. Women classified in this study as "poor adjusters" were significantly more likely than "good adjusters" to express a desire for additional information, both on the effects of hysterectomy and on strategies for coping. One of the purposes of such groups, then, might be to convey additional information to women considering hysterectomy, women scheduled for surgery, or women who have undergone hysterectomy who feel a need to have more information. Specific instruction on coping

strategies for women experiencing negative psychological effects might also be taught in a group context.

Finally, such groups might provide women with an opportunity to discuss, with other women, any concerns with respect to having a hysterectomy or problems following hysterectomy. The results of the study showed that approximately 60 percent of the respondents had found such an opportunity to be helpful, and less than 10 percent indicated that it was not helpful. Not all women have others to whom they can talk about their feelings or concerns regarding hysterectomy. Over 30 percent of the women in the study indicated that they had not had an opportunity to talk about their feelings with other women who had undergone hysterectomy, and one respondent commented that she had been glad to find the questionnaire because it had made her feel less isolated. She noted, "I have had many different feelings because of the hysterectomy and seeing some of these printed on paper made me realize that other women must be going through a lot of the same processes that I have. Somehow there is comfort in that." Such comments highlight the need for opportunities to be made available for women who wish to talk with others about their process of adjustment.

Recommendations for Further Research

1. Future studies should consider the use of a prospective design in order to determine the power of sex-role orientation and sex-role attitudes to predict psychological problems following hysterectomy.

2. Future research might focus on the hysterectomy adjustment scale. Factor analysis of the scale would be useful in assessing the validity of the subscales. Future studies might also investigate the relationship between the scale and other indicators of post-hysterectomy adjustment in order to empirically examine the validity of the scale.

3. The number of respondents indicating positive changes following hysterectomy, in this study, and the almost total focus on negative psychological consequences to hysterectomy in the research literature, suggests that research has been predicated on an assumption that may not accurately reflect the experience of the majority of women. Gath et al. (1982) are among the few to suggest that hysterectomy can contribute to improved psychological well-being. It is recommended that future studies consider both possibilities.

4. The absence of generally accepted risk factors in the literature on hysterectomy and the lack of strong relationships in this study between factors which, at least on an intuitive level, appear relevant suggests that the psychological effects of hysterectomy may depend on the meaning that a woman places on the event. Qualitative research methods might be used to explore the different meanings that hysterectomy has for women and the different psychological reactions which follow. A relatively large number of respondents in this study reported a feeling of freedom following the hysterectomy, a finding not previously reported in the literature. It may be that, in asking more open-ended questions, more information will be obtained about the way that women actually view hysterectomy.

5. The usefulness of groups designed to give women an opportunity to discuss their feelings regarding the operation as well as for the provision of information regarding physical effects, psychological effects, and coping strategies might be investigated.

FOOTNOTES

[1]"Masculinity," as it is used here, means that measured by the Bem Sex Role Inventory. Spence and her colleagues argue that the quality is more aptly termed "instrumental" or "active." It is, therefore, not surprising that there is a significant negative correlation between masculinity, used in that sense, and the use of withdrawal as a coping strategy.

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Appendix A

Letter to Physicians

Dear

We are currently conducting a study on factors influencing psychological adjustment to hysterectomy. For some women, there appear to be few problems; for others, that is not the case. The purpose of the study is investigate some factors which may differentiate women who have difficulties from women who do not.

We are seeking assistance from gynecologists in a number of major cities in Alberta in the distribution of the enclosed questionnaire. Distribution would involve making the questionnaire available to patients who have had a hysterectomy. Attached to the questionnaire will be a letter which (1) outlines the purpose of the study, (2) indicates that participation is strictly voluntary and assures confidentiality, and (3) provides a telephone number for prospective participants to call for further information. A stamped return envelope addressed to me at the University of Alberta will also be included for return of the questionnaire. Participants may fill out the questionnaire anonymously although those willing to be part of a small interview sample are asked to provide their name and telephone number. Physicians are not identified on the questionnaires nor will identification of physicians be made during the interview process. A copy of the interview schedule is also attached for your information.

The questionnaire has been reviewed by the ethics committee at the University of Alberta and meets the guidelines of the Medical Research Council with respect to research with human subjects.

Results of the study will be made available to you in the form of a written paper.

Dorothy Constable will be in contact with your office in approximately 10 days. If you are willing to assist with the distribution of the questionnaire, please leave a message with your

receptionist to that effect. If you have any questions regarding the study please contact Dorothy Constable at 428-0817 or Dr. Peter Calder at 432-3696.

Thank you for your consideration in this matter.

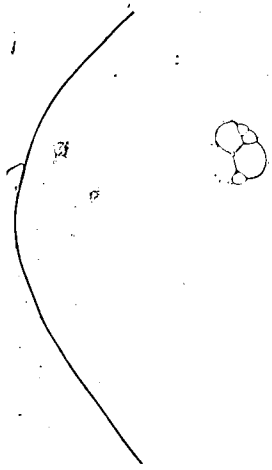
Yours truly,

D. Constable
Graduate Student
University of Alberta

P. Calder, Ph.D.
Professor
University of Alberta

Appendix B

Questionnaire



___1

1 4

Hysterectomy Questionnaire

1. Age _____ 5-6

2. Current marital status :

   single ___ married ___ divorced/separated ____ 7

3. Marital status at the time of the hysterectomy:

   single ____ married ____ divorced/separated ____ 8

4. Number of years married to spouse at the time of the hysterectomy _____ 9-10

5. Number of children _____ 11-12

6. How long ago did you have the hysterectomy? ____ years ____ months 13-14,15-16

7. Was the hysterectomy:

   ____(1) a hysterectomy with both ovaries removed

   ____(2) a hysterectomy with one ovary removed

   ____(3) a hysterectomy with ovaries not removed

   ____(4) don't know 17

8. Reason for the surgery:

   _____ __

   _____ 18

9. How much time did you have between the decision to have a hysterectomy and the operation? _____ __ __
19 20

10. I am currently working outside the home:
____(1) full-time
____(2) part-time
____(3) not at all 21

11. Prior to the hysterectomy, I was working outside the home:
____(1) full-time
____(2) part-time
____(3) not at all 22

12. What was your highest level of education at the time of the hysterectomy:
____(1) less than Grade 9
____(2) less than Grade 12
____(3) high school graduate
____(4) college or technical school graduate
____(5) university graduate 23

13. Has having a hysterectomy caused any positive changes in your life?
Yes ____ No ____ 24
If yes, please list any positive changes in the space provided below.

14. Has having a hysterectomy caused any negative changes in your life?
Yes ____ No ____ 25
If yes, please list any negative changes in the space provided below.

15. Prior to the hysterectomy, were you ever under the care of a psychiatrist or a psychologist for problems such as depression, anxiety, or other psychological problems? Yes ____ No ___ 26

16. The following people were supportive at the time of the hysterectomy (Check as many as applicable):
____(1) Spouse or partner 27
____(2) Personal friends 28
____(3) Parents 29
____(4) Coworkers 30
____ (5) Other (describe) _____ 31

17. The information I received from the following people was helpful in coping (Check as many as applicable):
____ (1) Doctors 32
____ (2) Nurses 33
____(3) Relatives 34
____(4) Friends 35
____(5) Other (describe) _____ 36

18. Having an opportunity to talk about my feelings to other women who had undergone a hysterectomy before I had the operation was:

____(1) helpful

____(2) not helpful

____(3) I did not have such an opportunity. 37

19. Having an opportunity to talk about my feelings to other women who had undergone a hysterectomy after I had the operation was:

____(1) helpful

____(2) not helpful

____(3) I did not have such an opportunity. 38

20. I would have liked more information in the following areas (Check as many as applicable):

____(1) The procedure itself 39

____(2) Physical effects 40

____(3) Psychological effects 41

____(4) Strategies for coping 42

____(5) Other (describe)_____

_____ 43

Please indicate which of the following you did when it appeared that a hysterectomy might be necessary (Check as many as applicable):

____21.	Tried to get as much information as possible about the operation and its effects (e.g. read a book, asked questions of knowledgeable people, made a list of questions for my doctor)	44
____22.	Talked with others and shared my concerns	45
____23.	Made light of the situation	46
____24.	Put it out of my mind; forgot about it	47
____25.	Did things to distract myself	48
____26.	Took steps to deal with having the hysterectomy or with possible complications arising from the hysterectomy	49
____27.	Focused on the positive aspects of having a hysterectomy	50
____28.	Resigned myself to the situation	51
____29.	Did something impulsive or unexpected	52
____30.	Considered and weighed various alternatives	53
____31.	Found myself eating or drinking more or using medication/drugs to reduce tension	54
____32.	Withdrew from others for a time	55
____33.	Blamed someone or something for my situation	56
____34.	Relied on my doctor to look after me	57
____35.	Blamed myself	58

DUP2
1 4

Please indicate the degree of agreement or disagreement with the following statements as they relate to you by circling the appropriate number. Circle 1 if you strongly disagree with the statement, 2 if you disagree with the statement, 3 if you neither agree nor disagree with the statement, 4 if you agree with the statement, and 5 if you strongly agree with the statement.

	SD	D	U	A	SA	
36. I feel that I coped well with having a hysterectomy.	1	2	3	4	5	(5)
37. I was able to resume normal activities without much difficulty within three months following surgery.	1	2	3	4	5	(6)
38. I feel that having a hysterectomy made me less productive in my work.	1	2	3	4	5	(7)
39. Having the hysterectomy has improved my general health and well-being.	1	2	3	4	5	(8)
40. I feel I have made positive changes in my life as a result of having the hysterectomy.	1	2	3	4	5	(9)
41. I feel that having a hysterectomy negatively affected my family life.	1	2	3	4	5	(10)
42. I resumed sexual relations within three months following surgery.	1	2	3	4	5	(11)
43. My sexual relations have deteriorated as a result of the hysterectomy.	1	2	3	4	5	(12)
44. There have been positive changes in my relationship with my spouse/ partner as a result of the operation.	1	2	3	4	5	(13)
45. I feel more sexually attractive since the hysterectomy.	1	2	3	4	5	(14)
46. Having a hysterectomy has made me feel less a woman.	1	2	3	4	5	(15)
47. Having a hysterectomy has left me with a feeling of loss.	1	2	3	4	5	(16)
48. I am unhappy with not being able to menstruate any more.	1	2	3	4	5	(17)

49. I wish I still had the potential to become pregnant. 1 2 3 4 5 (18)
50. I feel less feminine than before the surgery. 1 2 3 4 5 (19)

51. I suffered from headaches more often following the hysterectomy than before. 1 2 3 4 5 (20)
52. I became depressed following the hysterectomy. 1 2 3 4 5 (21)
53. My dreams were more troubling following the hysterectomy than before. 1 2 3 4 5 (22)
54. I became more anxious about things following the hysterectomy. 1 2 3 4 5 (23)
55. I had difficulty sleeping more often following the hysterectomy than before. 1 2 3 4 5 (24)

56. I feel that in order to be truly fulfilled as a woman, it is necessary to have children. 1 2 3 4 5 (25)
57. A woman who has young children should not work outside the home if at all possible. 1 2 3 4 5 (26)
58. Women who want a full-time career should not plan to raise children. 1 2 3 4 5 (27)
59. A mother's main task is to provide for the emotional well-being of her husband and children. 1 2 3 4 5 (28)
60. A husband has the right to expect his wife to bear children. 1 2 3 4 5 (29)

61. Swearing and obscenity are more repulsive in the speech of a woman than a man. 1 2 3 4 5 (30)
62. Under modern economic conditions with women being active outside the home, men should share in household tasks such as dishes and doing the laundry. 1 2 3 4 5 (31)
63. It is insulting to women to have the "obey" clause remain in the marriage service. 1 2 3 4 5 (32)
64. A woman should be as free as a man to propose marriage. 1 2 3 4 5 (33)

65. Women should worry less about their rights and more about becoming good wives and mothers. 1 2 3 4 5 (34)

66. Women should assume their rightful place in business and professions along with men. 1 2 3 4 5 (35)

67. A woman should not expect to go to exactly the same places or have quite the same freedom of action as a man. 1 2 3 4 5 (36)

68. It is ridiculous for a woman to run a locomotive and for a man to darn socks. 1 2 3 4 5 (37)

69. The intellectual leadership of a community should be largely in the hands of men. 1 2 3 4 5 (38)

70. Women should be given equal opportunity with men for apprenticeship in the various trades. 1 2 3 4 5 (39)

71. Women earning as much as their dates should bear equally the expense when they go out together. 1 2 3 4 5 (40)

72. Sons in a family should be given more encouragement to go to college than daughters. 1 2 3 4 5 (41)

73. In general, the father should have greater authority than the mother in the bringing up of children. 1 2 3 4 5 (42)

74. Economic and social freedom is worth far more to women than acceptance of the ideal of femininity which has been set up by men. 1 2 3 4 5 (43)

75. There are many jobs in which men should be given preference over women in being hired or promoted. 1 2 3 4 5 (44)

Listed below are a number of personality characteristics. We would like you to use those characteristics to describe yourself, that is, we would like you to indicate, on a scale from 1 to 7, how true of you each of these characteristics is. Please do not leave any characteristic unmarked. For example, if the characteristic is "talkative":

Circle 1 if it is never or almost never true that you are talkative.

Circle 2 if it is usually not true that you are talkative.

Circle 3 if it is sometimes but infrequently true that you are talkative.

Circle 4 if it is occasionally true that you are talkative.

Circle 5 if it is often true that you are talkative.

Circle 6 if it is usually true that you are talkative.

Circle 7 if it always or almost always true that you are talkative.

1	2	3	4	5	6	7
never or almost never true	usually not true	sometimes but infrequently true	occasionally true	often true	usually true	always or almost always true

76. Defend my own beliefs	1 2 3 4 5 6 7	(45)
77. Affectionate	1 2 3 4 5 6 7	(46)
78. Conscientious	1 2 3 4 5 6 7	(47)
79. Independent	1 2 3 4 5 6 7	(48)
80. Sympathetic	1 2 3 4 5 6 7	(49)

81. Moody	1 2 3 4 5 6 7	(50)
82. Assertive	1 2 3 4 5 6 7	(51)
83. Sensitive to needs of others	1 2 3 4 5 6 7	(52)
84. Reliable	1 2 3 4 5 6 7	(53)
85. Strong personality	1 2 3 4 5 6 7	(54)
86. Understanding	1 2 3 4 5 6 7	(55)
87. Jealous	1 2 3 4 5 6 7	(56)
88. Forceful	1 2 3 4 5 6 7	(57)
89. Compassionate	1 2 3 4 5 6 7	(58)
90. Truthful	1 2 3 4 5 6 7	(59)
91. Have leadership abilities	1 2 3 4 5 6 7	(60)
92. Eager to soothe hurt feelings	1 2 3 4 5 6 7	(61)
93. Secretive	1 2 3 4 5 6 7	(62)
94. Willing to take risks	1 2 3 4 5 6 7	(63)
95. Warm	1 2 3 4 5 6 7	(64)
96. Adaptable	1 2 3 4 5 6 7	(65)
97. Dominant	1 2 3 4 5 6 7	(66)
98. Tender	1 2 3 4 5 6 7	(67)
99. Conceited	1 2 3 4 5 6 7	(68)
100. Willing to take a stand	1 2 3 4 5 6 7	(69)
101. Love children	1 2 3 4 5 6 7	(70)
102. Tactful	1 2 3 4 5 6 7	(71)
103. Aggressive	1 2 3 4 5 6 7	(72)
104. Gentle	1 2 3 4 5 6 7	(73)
105. Conventional	1 2 3 4 5 6 7	(74)

Thank you very much for your assistance with this study. Any comments that you have regarding the questionnaire would be very much appreciated.

_____ _____

_____

_____

_____

_____

If you would be willing to be interviewed in person regarding your experience in having a hysterectomy, please fill in your name and telephone number(s) where you can be reached.

Name: _____

Telephone: _____

PLEASE RETURN THE QUESTIONNAIRE IN THE POSTAGE-PAID ENVELOPE PROVIDED.

Appendix C

Letter of Support

University of Alberta
Edmonton
Canada T6G 2R7

Department of
Obstetrics and Gynaecology
1D1 Walter C Mackenzie Health Sciences Centre
Telephone (403) 432-6636

February 12, 1987

Dear Colleague:

This letter is in regard to the research project being conducted by Ms. Dorothy Constable. I am familiar with her reseach proposal and have had an opportunity to read the questionnaire which she hopes to distribute through your office. I believe that the research is important and worthwhile and hope that you will give her your assistance in facilitating distribution of the questionnaire.

Yours truly,

David C. Cumming, MBChB, MRCOG, FRCSC
Associate Professor
Departments of Obstetrics and Gynecology
and Medicine (Division of Endocrinology)

Appendix D

Covering Letter

HYSTERECTOMY STUDY

We are [redacted] conducting a study on the psychological impact of having a hysterectomy and investigating some possible reasons why women have different psychological reactions to having a hysterectomy.

If you have had a hysterectomy, we would very much appreciate your assistance with this study. Attached is a questionnaire and a postage-paid envelope for returning the questionnaire directly to the University of Alberta. The questionnaire takes approximately 30 minutes to complete.

We are also planning to do in-person interviews with a small number of respondents and have asked you to provide your name and telephone number if you would be willing to be interviewed. Interviews will be conducted by Dorothy Constable and will last approximately 30-45 minutes. If you do not wish to be interviewed, there is no need to fill in the blank asking for your name.

Participation in the survey is strictly voluntary and responses will be anonymous unless you indicate that you would be willing to be interviewed as part of the study. All results will be presented in such a form that confidentiality is maintained. If you have any questions about the study or about the questionnaire, please feel free to contact Dorothy Constable at 428-0817.

Thank you very much for your assistance with this study.

Appendix E

Responses to Questionnaire Items

1. Age: mean: 42.4 standard deviation: 10.4

2. Current marital status :
single: 7% married: 74% divorced/separated: 20%

3. Marital status at the time of the hysterectomy:
single: 8% married: 78% divorced/separated: 14%

4. Number of years married to spouse at the time of the hysterectomy _____

5. Number of children: mean: 2.3 standard deviation: 1.5

6. How long ago did you have the hysterectomy? ____ years ____ months

7. Was the hysterectomy:

(1) a hysterectomy with both ovaries removed	42%
(2) a hysterectomy with one ovary removed	12%
(3) a hysterectomy with ovaries not removed	46%
(4) don't know	1%

8. Reason for the surgery:

(1) cancer or fear of cancer	16%
(2) other gynecological diseases/problems	25%
(3) fibroids	18%
(4) menstrual dysfunction	22%
(5) menstrual dysfunction with associated pain	20%

9. How much time did you have between the decision to have a hysterectomy and the operation?

(1) less than one month	22%
(2) less than one year	70%
(3) one year or more	8%

10. I am currently working outside the home:

(1) full-time	33%
(2) part-time	22%
(3) not at all	46%

11. Prior to the hysterectomy, I was working outside the home:

(1) full-time	43%
(2) part-time	23%
(3) not at all	34%

12. What was your highest level of education at the time of the hysterectomy:

(1) less than Grade 9	3%
(2) less than Grade 12	28%
(3) high school graduate	29%
(4) college or technical school graduate	20%
(5) university graduate	21%

13. Has having a hysterectomy caused any positive changes in your life?

Yes: 78% No: 22%

14. Has having a hysterectomy caused any negative changes in your life?

Yes: 29% No: 71%

15. Prior to the hysterectomy, were you ever under the care of a psychiatrist or a psychologist for problems such as depression, anxiety, or other psychological problems?

Yes: 18% No: 82%

16. The following people were supportive at the time of the hysterectomy (Check as many as applicable):

(1) Spouse or partner	77%
(2) Personal friends	79%
(3) Parents	52%
(4) Coworkers	33%
(5) Others	30%

17. The information I received from the following people was helpful in coping (Check as many as applicable):

(1) Doctors	81%
(2) Nurses	39%
(3) Relatives	39%
(4) Friends	57%
(5) Others	13%

18. Having an opportunity to talk about my feelings to other women who had undergone a hysterectomy before I had the operation was:

(1) helpful	58%
(2) not helpful	8%
(3) I did not have such an opportunity.	34%

19. Having an opportunity to talk about my feelings to other women who had undergone a hysterectomy after I had the operation was:

(1) helpful	60%
(2) not helpful	7%
(3) I did not have such an opportunity.	33%

20. I would have liked more information in the following areas (Check as many as applicable):

(1) The procedure itself	30%
(2) Physical effects	36%
(3) Psychological effects	30%
(4) Strategies for coping	26%
(5) Other	12%

Please indicate which of the following you did when it appeared that a hysterectomy might be necessary (Check as many as applicable):

21.	Tried to get as much information as possible about the operation and its effects (e.g. read a book, asked questions of knowledgeable people, made a list of questions for my doctor)	68%
22.	Talked with others and shared my concerns	58%
23.	Made light of the situation	14%
24.	Put it out of my mind; forgot about it	8%
25.	Did things to distract myself	12%
26.	Took steps to deal with having the hysterectomy or with possible complications arising from the hysterectomy	42%
27.	Focused on the positive aspects of having a hysterectomy	82%
28.	Resigned myself to the situation	40%
29.	Did something impulsive or unexpected	4%
30.	Considered and weighed various alternatives	26%
31.	Found myself eating or drinking more or using medication/drugs to reduce tension	11%
32.	Withdrew from others for a time	8%
33.	Blamed someone or somethihg for my situation	4%
34.	Relied on my doctor to look after me	57%
35.	Blamed myself	7%

Please indicate the degree of agreement or disagreement with the following statements as they relate to you by circling the appropriate number. Circle 1 if you strongly disagree with the statement, 2 if you disagree with the statement, 3 if you neither agree nor disagree with the statement, 4 if you agree with the statement, and 5 if you strongly agree with the statement.

	%SD	%D	%U	%A	%SA	Mean	S.D.
36. I feel that I coped well with having a hysterectomy.	2.6	1.3	2.6	32.5	61.0	4.48	0.84
37. I was able to resume normal activities without much difficulty within three months following surgery.	5.3	5.3	5.3	35.5	48.7	4.17	1.10
38. I feel that having a hysterectomy made me less productive in my work.	60.5	19.7	15.8	3.9	0.0	1.63	0.89
39. Having the hysterectomy has improved my general health and well-being.	3.9	3.9	19.5	35.1	37.7	3.99	1.05
40. I feel I have made positive changes in my life as a result of having the hysterectomy.	5.2	5.2	36.4	32.5	20.8	3.58	1.04
41. I feel that having a hysterectomy negatively affected my family life.	57.1	19.5	15.0	6.5	3.9	1.81	1.14
42. I resumed sexual relations within three months following surgery.	5.3	2.7	10.7	40.0	41.3	4.09	1.06
43. My sexual relations have deteriorated as a result of the hysterectomy.	54.7	10.7	20.0	8.0	6.7	2.01	1.30
44. There have been positive changes in my relationship with my spouse/partner as a result of the operation.	6.6	5.3	42.1	27.6	18.4	3.46	1.06
45. I feel more sexually attractive since the hysterectomy.	8.0	13.3	57.3	12.0	9.3	3.01	0.98
46. Having a hysterectomy has made me feel less a woman.	66.2	16.9	10.4	2.6	3.9	1.61	1.04
47. Having a hysterectomy has left me with a feeling of loss.	55.3	13.2	7.9	19.7	3.9	2.04	1.34
48. I am unhappy with not being able to menstruate any more.	76.6	7.8	6.5	2.6	6.5	1.55	1.15
49. I wish I still had the potential to become pregnant.	54.5	13.0	13.0	9.1	10.4	2.08	1.41
50. I feel less feminine than before the surgery.	70.1	11.7	7.8	5.2	5.2	1.64	1.16
51. I suffered from headaches more often following the hysterectomy than before.	45.5	18.2	22.1	9.1	5.2	2.10	1.13

52. I became depressed following the hysterectomy.	37.7	24.7	5.2	27.3	5.2	2.38	1.37
53. My dreams were more troubling following the hysterectomy than before.	47.4	19.7	22.4	6.6	3.9	2.00	1.56
54. I became more anxious about things following the hysterectomy.	40.8	22.4	18.4	13.2	5.3	2.20	1.26
55. I had difficulty sleeping more often following the hysterectomy than before.	35.5	25.0	23.7	7.9	7.9	2.28	1.25
56. I feel that in order to be truly fulfilled as a woman, it is necessary to have children.	39.0	23.4	16.9	14.3	6.5	2.26	1.29
57. A woman who has young children should not work outside the home if at all possible.	15.6	22.1	22.1	27.3	13.0	3.00	1.29
58. Women who want a full-time career should not plan to raise children.	28.2	32.5	27.3	15.6	6.5	2.60	1.15
59. A mother's main task is to provide for the emotional well-being of her husband and children.	11.7	22.1	26.0	32.5	7.8	3.03	1.16
60. A husband has the right to expect his wife to bear children.	40.3	23.4	15.6	18.2	2.6	2.20	1.23
61. Swearing and obscenity are more repulsive in the speech of a woman than a man.	18.2	18.2	22.1	27.3	14.3	3.01	1.33
62. Under modern economic conditions with women being active outside the home, men should share in household tasks such as dishes and doing the laundry.	1.3	7.8	5.2	32.5	53.2	4.29	0.97
63. It is insulting to women to have the "obey" clause remain in the marriage service.	7.8	15.6	33.8	19.5	23.4	3.35	1.22
64. A woman should be as free as a man to propose marriage.	3.9	7.8	33.8	33.8	20.8	3.60	1.03
65. Women should worry less about their rights and more about becoming good wives and mothers.	25.0	35.5	18.4	10.5	10.5	2.46	1.25
66. Women should assume their rightful place inbusiness and professions along with men.	3.9	1.3	21.1	42.1	31.6	3.96	0.97
67. A woman should not expect to go to exactly the same places or have quite the same freedom of action as a man.	43.4	34.2	13.2	7.9	1.3	1.90	1.00
68. It is ridiculous for a woman to run a locomotive and for a man to darn socks.	46.1	36.8	11.5	3.9	2.6	1.80	0.97
69. The intellectual leadership of a community should be largely in the hands of men.	52.6	31.6	9.2	5.3	1.3	1.71	0.94

70. Women should be given equal opportunity with men for apprenticeship in the various trades.	6.6	0.0	7.9	39.5	46.1	4.18	1.06
71. Women earning as much as their dates should bear equally the expense when they go out together.	2.6	7.9	39.5	35.5	14.5	3.51	0.93
72. Sons in a family should be given more encouragement to go to college than daughters.	61.8	31.6	1.3	3.9	1.3	1.51	0.83
73. In general, the father should have greater authority than the mother in the bringing up of children.	53.3	30.7	5.3	6.7	4.0	1.77	1.09
74. Economic and social freedom is worth far more to women than acceptance of the ideal of femininity which has been set up by men.	1.4	13.5	35.1	25.7	24.3	3.58	1.05
75. There are many jobs in which men should be given preference over women in being hired or promoted.	27.0	28.4	18.9	18.9	6.8	2.50	1.26

Listed below are a number of personality characteristics. We would like you to use those characteristics to describe yourself, that is, we would like you to indicate, on a scale from 1 to 7, how true of you each of these characteristics is. Please do not leave any characteristic unmarked. For example, if the characteristic is "talkative":

Circle 1 if it is never or almost never true that you are talkative.
Circle 2 if it is usually not true that you are talkative.
Circle 3 if it is sometimes but infrequently true that you are talkative.
Circle 4 if it is occasionally true that you are talkative.
Circle 5 if it is often true that you are talkative.
Circle 6 if it is usually true that you are talkative.
Circle 7 if it always or almost always true that you are talkative.

1	2	3	4	5	6	7
never or almost never true	usually not true	sometimes but infrequently true	occasionally true	often true	usually true	always or almost always true

	%1	%2	%3	%4	%5	%6	%7	Mean	S.D.
76. Defend my own beliefs	0.0	0.0	2.6	9.1	18.2	32.5	37.7	5.94	1.08
77. Affectionate	0.0	0.0	1.3	15.6	16.9	33.8	32.5	5.81	1.10
78. Conscientious	0.0	0.0	1.3	3.9	11.7	40.3	42.9	6.20	0.89
79. Independent	1.3	0.0	3.9	9.1	24.7	36.4	24.7	5.64	1.19
80. Sympathetic	0.0	1.3	0.0	6.5	15.6	39.0	37.7	6.04	1.00
81. Moody	13.0	16.9	18.2	36.4	6.5	7.8	1.3	3.35	1.46
82. Assertive	0.0	5.3	9.3	24.0	29.3	25.3	6.7	4.80	1.26
83. Sensitive to needs of others	0.0	0.0	2.6	7.9	22.4	39.5	27.6	5.82	1.02
84. Reliable	0.0	0.0	0.0	2.6	3.9	40.3	53.2	6.44	0.70
85. Strong personality	0.0	1.3	1.3	14.5	22.4	27.6	32.9	5.72	1.18
86. Understanding	0.0	0.0	0.0	2.6	19.5	55.8	22.1	5.97	0.73
87. Jealous	16.9	28.6	13.0	16.9	14.3	6.5	3.9	3.18	1.71
88. Forceful	2.6	15.6	11.7	45.5	11.7	10.4	2.6	3.90	1.32
89. Compassionate	0.0	0.0	1.3	9.1	20.8	50.6	18.2	5.75	0.91
90. Truthful	0.0	0.0	0.0	0.0	2.6	49.4	48.1	6.46	0.55
91. Have leadership abilities	2.6	6.5	3.9	19.5	20.8	29.9	16.9	5.07	1.53
92. Eager to soothe hurt feelings	0.0	1.3	0.0	14.3	29.9	36.4	18.2	5.56	1.03

93. Secretive	14.3	26.0	18.2	20.8	13.0	6.5	1.3	3.17	1.53
94. Willing to take risks	9.2	9.2	17.1	25.0	13.2	19.7	6.6	4.09	1.71
95. Warm	0.0	1.3	0.0	5.3	29.3	44.0	20.0	5.75	0.93
96. Adaptable	0.0	1.3	0.0	18.2	22.1	45.5	3.9	5.49	1.02
97. Dominant	6.7	8.0	12.0	32.0	20.0	16	5	4.20	1.53
98. Tender	0.0	0.0	3.9	16.9	27.3	31.2	20.8	5.48	1.12
99. Conceited	21.1	32.9	17.1	25.0	2.6	1.3	0.0	2.59	1.22
100. Willing to take a stand	0.0	2.6	9.1	14.3	24.7	26.0	23.4	5.33	1.36
101. Love children	0.0	0.0	2.6	2.6	16.9	27.3	50.6	6.21	0.99
102. Tactful	0.0	1.3	5.3	13.2	30.3	39.5	10.5	5.33	1.09
103. Aggressive	6.5	13.0	16.9	24.7	22.1	9.1	7.8	4.01	1.61
104. Gentle	0.0	2.6	3.9	10.4	22.1	39.0	22.1	5.57	1.21
105. Conventional	1.3	2.6	3.9	20.8	29.9	31.2	10.4	5.10	1.24